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MONOGRAPHS

ON

EDUCATION IN THE UNITED STATES

EDITED BY

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New York City

VOLUME I

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INTRODUCTION

Spontaneity is the keynote of education in the United States. Its varied form, its uneven progress, its lack of symmetry, its practical effectiveness, are all due to the fact that it has sprung, unbidden and unforced, from the needs and aspirations of the people. Local preference and individual initiative have been ruling forces. What men have wished for that they have done. They have not waited for state assistance or for state control. As a result, there is, in the European sense, no American system of education. There is no national educational administrative machinery and no national legislative authority over education in the several states. The bureau of education at Washington was not established until 1867, and save in one or two minor respects, its functions are wholly advisory. It is absolutely dependent upon the good will of the educational officials of the states, counties and municipalities and upon that of the administrative officers of privately-conducted institutions, for the admirable and authoritative statistics which it collects and publishes year by year. That these statistics are so complete and so accurate is evidence that the moral influence and authority of the bureau of education are very great, and that it commands a co-operation as cordial as it is universal.

National government and education

But the national government has, from the very beginning, made enormous grants of land and money in aid of education in the several states. The portion of the public domain hitherto set apart by congress for the endowment of public education amounts to 86,138,473 acres, or 134,591 English square miles. This is an area larger than that of the six New England states, New York, New Jersey, Maryland and Delaware added together. It is a portion of the earth's surface as great as the kingdom of Prussia, about seven-tenths as great as France, and considerably greater than the combined areas of Great Britain, including the Channel islands, and the kingdom of Holland. The aggregate value of lands and money given for education by the national government, as Commissioner Harris shows in detail,[1] is nearly $300,000,000.

Education a state function

The uniform tendency of recent development, as marked by judicial decisions and by legislative enactments, is to treat all publicly-controlled education as part of a slowly-forming system which has its basis in the authority of the state government, as distinguished from that of the nation on the one hand and from that of the locality on the other. This system may be highly centralized, as in New York, or the contrary, as in Massachusetts, but the theory underlying it is the same. The two fundamental principles which are emerging as the result of a century's growth are, first, that education is a matter of state concern, and not merely one of local preference; and, second, that state inspection and supervision shall be applied so as to stimulate and encourage local interest in education and to avoid the deadening routine of a mechanical uniformity. The state acts to provide adequate opportunity for elementary education for all children, and abundant opportunity for secondary and higher education. But the state claims no monopoly in education. It protects private initiative, whether stimulated by religious zeal, philanthropy or desire for gain, in doing the same thing. It is not customary, in the United States, for state officials to inspect or to interfere with the educational work of privately-established institutions. When these are chartered bodies, they are subject simply to the general provisions of law governing corporations of their class. When they are not chartered bodies, the state treats them as it does any private business undertaking: it lets them alone. Standards of efficiency and of professional attainment are regulated in these institutions by those in neighboring public institutions, by local public opinion and by competition. Sometimes these forces operate to raise standards, sometimes to lower them. New York has gone farther than any other state in attempting to define and to classify all educational institutions, private as well as public. Pennsylvania has recently entered upon a similar policy; and it is being urged in other states as well. The public elementary schools are more or less carefully regulated by law, both as to length of school term, as to subjects taught, and as to the necessary qualifications of the teachers. The public secondary schools, familiarly known as high schools, and the state universities are usually without any such regulation.

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[1] I: 96

Statistics of public education

The term "common schools" is often used in the United States of the public elementary schools alone; but the more correct use is to include under it all public elementary schools, — the first eight years of the course of study, — and all public secondary schools, maintaining a four years' course, as a rule, in advance of the elementary school. In 1897–8 the total estimated population of the United States was 72,737,100. Of this number 21,458,294 — a number nearly equal to the population of Austria — were of school age, as it is called; that is, they were from 5 to 18 years of age. This is not the age covered by the compulsory education laws, but the school age as the term is used by the United States census. By school age is meant the period during which a pupil may attend a public school and during which a share of the public money may be used for his education. It is obvious, then, that persons who have satisfactorily completed both an elementary and a secondary course of study may still be returned as of "school age" and as "not attending any school." This fact has always to be taken into account in the interpretation of American educational statistics.

In 1897–8 the number of pupils entered upon the registers of the common schools — that is, the public elementary and the public secondary schools — was 15,038,636, or 20.68 per cent of the total population and 70.08 per cent of the persons of "school age." The total population of Scotland and Ireland is only about half so many as this. For these pupils 409,193 teachers were employed, of which number 131,750, or 32.2 per cent were men. The women teachers in the common schools numbered 277,443. The teachers, if brought together, would outnumber the population of Munich. The women alone far more than equal the population of Bordeaux. No fewer than 242,390 buildings were in use for common school purposes. Their aggregate value was nearly $500,000,000 ($492,703,781).

The average length of the annual school session was 143.1 days, an increase since 1870 of 11 days. In some states the length of the annual school session is very much above this average. It rises, for example, to 191 days in Rhode Island, 186 in Massachusetts, 185 in New Jersey, 176 in New York, 172 in California, 162 in Iowa, and 160 in Michigan and Wisconsin. The shortest average annual session is in North Carolina (68.8 days) and in Arkansas (69 days). Taking the entire educational resources of the United States into consideration, each individual of the population would receive school instruction for 5 years of 200 days each. Since 1870 this has increased from 3.36 years, and since 1880 from 3.96 years, of 200 days each.

The average monthly salary of men teachers in the common schools was $45.16 in 1897–8; that of the women teachers was $38.74. In the last forty years the average salary of common school teachers has increased 86.3 per cent in cities and 74.9 per cent in the rural districts. The total receipts for common school purposes in 1897–8 were almost $200,000,000 ($199,317,597), of which vast sum 4.6 per cent was income from permanent funds, 17.9 per cent was raised by state school tax, 67.3 per cent by local (county, municipal or school district) tax, and 10.2 came from other sources. The common school expenditure per capita of population was $2.67; for each pupil, it averaged $18.86. Teachers' salaries absorb 63.8 per cent ($123,809,412) of the expenditure for common schools.

The commissioner of education believes the normal standard of enrollment in private educational institutions to be about 15 per cent of the total enrollment. At the present time it is only a little more than 9 per cent, having been reduced apparently by the long period of commercial and financial depression which has but lately ended.

Illiteracy

Illiteracy in the United States can hardly be compared fairly with that in European countries because of the fact that an overwhelming proportion of the illiterates are found among the negroes and among the immigrants who continue to pour into the country in large numbers. The eleventh census of the United States, taken in 1890, showed that the percentage of illiterates to the whole population was 13.3, a decrease of 3.7 per cent since the census of 1880. But the percentage of illiterates among the native white population (being 73.2 per cent of the whole) was only 6.2 of those ten years of age or older. Among the foreign born white population (14.6 per cent of the whole), the percentage of illiteracy was 13.1, and among the colored population (12.2 of the whole), it was 56.8. That is, nearly one-half of the whole number of illiterates in the United States were colored. Only in Florida, Mississippi, West Virginia, Virginia, Kentucky, Georgia, Arkansas, Tennessee, South Carolina, Alabama, Louisiana, North Carolina, and New Mexico, was the percentage of illiteracy among the native white population greater than 10. This percentage fell below 2 in New Hampshire (1.5), Massachusetts (0.8), Connecticut (1.), New York (1.8), District of Columbia (1.7), Minnesota (1.4), Iowa (1.8), North Dakota (1.8), South Dakota (1.2), Nebraska (1.3), Montana (1.6), Wyoming (1.3), Nevada (0.8), Idaho (1.9), Washington (1.3), Oregon (1.8) and California (1.7). In Kansas it was exactly 2.

Education and crime

It is not infrequently charged by those who have but a superficial knowledge of the facts, or who are disposed to weaken the force of the argument for state education, that one effect of the system of public education in the United States has been to increase the proportion of criminals, particularly those whose crime is against property. The facts in refutation of this charge are so simple and so indisputable that they should always be kept in mind.

In the first place, it must be remembered that communities which maintain schools have higher standards as to what is lawful than communities which are without the civilization which the presence of a school system indicates, and that, therefore, more acts are held to be criminal and more crimes are detected and punished in a community of the former sort than in one of the latter. A greater number of arrests may signify better police administration rather than an increase in crime.

Again, where records have been carefully kept, it appears that the illiterate portion of the population furnishes from six to eight times its proper proportion of criminals. This was established for a large area by an extensive investigation carried on by the bureau of education in 1870.

The history of the past fifty years in the state of Massachusetts is alone a conclusive answer to the contention that education begets crime. In 1850 the jails and prisons of that state held 8,761 persons, while in 1855 the number had increased to three times as many (26,651). On the surface, therefore, crime had greatly increased. But analysis of the crimes shows that serious offences had fallen off 40 per cent during this period, while the vigilance with which minor misdemeanors were followed up had produced the great apparent increase in crime. While drunkenness had greatly fallen off in proportion to the population, yet commitments for drunkenness alone multiplied from 3,341 in 1850 to 18,701 in 1885. The commitments for crimes other than drunkenness were 1 to every 183 of the population in 1850 and 1 to every 244 of the population in 1885. In other words, as has been pointed out, persons and property had become safer, while drunkenness had become more dangerous — to the drunkard.

The American people are convinced that their public school system has justified the argument of Daniel Webster, made in 1821: "For the purpose of public instruction," he said, "we hold every man subject to taxation in proportion to his property, and we look not to the question whether he himself have or have not children to be benefited by the education for which he pays; we regard it as a wise and liberal system of police, by which property, and life, and the peace of society are secured. We seek to prevent, in some measure, the extension of the penal code by inspiring a salutary and conservative principle of virtue and of knowledge in an early age. We hope to excite a feeling of respectability and a sense of character by enlarging the capacities and increasing the sphere of intellectual enjoyment. * * * Knowing that our government rests directly upon the public will, that we may preserve it we endeavor to give a safe and proper direction to the public will. We do not, indeed, expect all men to be philosophers or statesmen; but we confidently trust * * * that by the diffusion of general knowledge, and good and virtuous sentiments, the political fabric may be secure as well against open violence and overthrow as against the slow but sure undermining of licentiousness."

Education and industry

Where the public school term in the United States is longest, there the average productive capacity of the citizen is greatest. This can hardly be a coincidence. When the man of science finds such a coincidence as this in his test tube or balance, he proclaims it a scientific discovery proved by inductive evidence. The average school period per inhabitant, taking the United States as a whole, was, in 1897, 4.3 years. The average school period for Massachusetts is 7 years. The proportion, therefore, between the school period in that state and the school period in the whole United States is as 70 to 43. It is very interesting to note that the proportion between the productive capacity of each individual in Massachusetts and that of each individual in the whole United

States, is as 66 to 37. Education, 70 to 43; productivity, 66 to 37. On the basis of 306 working days in Massachusetts, and on the basis of a population something over 2,000,000, this means that every citizen of Massachusetts — man, woman, infant in arms — is to be credited with a productive capacity every year of $88.75 more than the average for the United States as a whole. Or to put in the most striking fashion, it means that the excess of productive capacity for the state of Massachusetts in one year is $200,000,000, or about 20 times the cost of maintaining the public schools. If the state of North Carolina, for example, could bring it about through education that every individual's productive capacity was increased 10 cents a day — that is, just one-third the Massachusetts excess — for 306 working days, estimating the population roughly at 1,750,000, the state would be better off in the next calendar year to the amount of $54,000,000. If the increase could equal the Massachusetts excess of 29 cents, North Carolina would be better off to the extent of $160,000,000. North Carolina now spends less than $1,000,000 a year for public education.

Public secondary education

The number of public secondary schools, high schools, in the United States in 1897–8 was 5,315, employing 17,941 teachers and enrolling 449,600 pupils. Nearly 3,000 of these schools (2,832) were in the North Central states. The rapid increase of these schools, the flexibility of their program of studies and the growing value of the training which they offer, are among the most significant educational facts of the last two decades. The present rate of increase of secondary school pupils is nearly five times as great as the rate of increase of the population. It is noteworthy, too, that nearly 50 per cent (49.44) of the whole number of secondary school pupils are studying Latin. The rate of increase in the number of the pupils who study Latin is fully twice as great as the rate of increase in the number of secondary school students.

Between 1890 and 1896, while the number of students in private secondary schools increased 12 per cent, the number of students in public secondary schools increased 87 per cent. Further, since 1893–4 the number of pupils in private secondary schools has steadily declined.

Local influence of the college

The number of colleges in the United States — 472, excluding those for women only — is very large. Many of these institutions, small and weak, ill-equipped and ill-endowed, are frequently criticized severely for endeavoring to continue the struggle for existence. This criticism is, in part, justifiable, but it ought not to be forgotten that almost every college exerts a helpful influence upon the life of its locality. The fact is frequently overlooked that all American colleges depend for their students in large measure upon their own neighborhood. Few draw from the nation at large, and these few draw only a small proportion of their students from beyond the confines of their own state or the limits of their own section of the country. For example, of the 28,000 (27,956) students attending colleges in the North Atlantic division, 26,393, or 94.41 per cent, are residents of the states included in that division. Of the 8,529 students in colleges of Massachusetts, 55.62 per cent are residents of that state, and 83.37 per cent are residents of the North Atlantic division, of which Massachusetts is a part. In Oregon the percentages rise to 96.09 and 99.87, respectively.

American universities

The development of universities in the United States has taken place during the present generation. The name "university" is, in America, no proper index to the character and work of the institution which bears it. Professor Perry has set out illustrations of this fact with great clearness.[1] Nevertheless, the distinctions between secondary school, college and university are more widely recognized each year and it is not too much to hope that, in course of time, the various institutions will adopt the names which properly belong to each.

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[1] I: 254

The definition of a university which I have suggested elsewhere[1] is this: "An institution, where students, adequately trained by previous study of the liberal arts and sciences, are led into special fields of learning and research by teachers of high excellence and originality; and where, by the agency of museums, laboratories, and publications, knowledge is conserved, advanced and disseminated." In this sense there are at least half-a-dozen American universities now in existence, and as many more in the process of making. These universities are markedly different from those of France, Germany, and Great Britian, but they respond in a most complete way to the educational needs of the American people, and they are playing an increasingly important part in the advancement of knowledge and the development of its applications to problems of government, of industry and of commerce. The administrators of American universities have studied carefully the experience of European nations, and they have applied the result of that experience, wherever possible, in the solution of their own problems.

Literature of education

The variety and value of American contributions to the literature of education are worthy of notice. Nearly 300 periodical publications of one type or another are devoted mainly to education. A few of these rank with the leading educational journals of the world. Perhaps the publications of the National educational association, a voluntary organization of teachers of every grade, are the most characteristic American contributions. They include not only the invaluable series of annual *Proceedings*, containing papers and discussions by the leaders of American education for a generation, but reports upon particular subjects the investigation of which has been undertaken from time to time by special committees. Among the subjects so reported upon are these: Secondary school studies, Organization of elementary education, Rural schools, College entrance requirements, Relation of public libraries to public schools, and Normal schools.

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[1] The Meaning of Education (New York, 1898), p. 130

The most valuable official publications are these: the annual reports, issued since 1868, by the United States commissioner of education, those since 1889 being particularly noteworthy; the reports issued by Horace Mann as secretary of the state board of education of Massachusetts, 1838–49; the twelve volumes of reports issued by William T. Harris, as superintendent of the public schools of St. Louis, Mo., 1867–79; and the annual reports of Charles W. Eliot as president of Harvard university, 1871–99. The annual reports of state and city superintendents of schools are a storehouse of information and often contain elaborate discussions of educational theory and practice.

Private aid to education

One fact in American education is certainly unique. That is the vast sum given in aid or endowment of education by individuals. It recalls the best traditions of the princes and churchmen of the middle ages, but is on a vastly larger scale. For some time past the income of Harvard university from this source has been nearly or quite a million dollars annually. In 1898–9 the total amount of gifts to Harvard university for purposes of general or special endowment was $1,383,460.77, and for immediate use $161,368.90. Columbia university has received in the last decade $6,736,482 in money and in land. An unofficial estimate of the amount given by individuals during the year 1899 for universities, colleges, schools and libraries is over $70,000,000. The tendency which these colossal figures indicate is one of the most fortunate and most hopeful in American life. The makers and holders of great fortunes are pouring out from their excess for the development of the higher life and greater productive capacity of the people. The religious bodies, in particular the Roman Catholic church, are doing the same thing upon a very large scale. The conviction that education is fundamental to democratic civilization is perhaps the most widespread among the American people. Public funds and private wealth are alike given unstintingly in support of it.

Study of education

Education, conceived as a social institution, is now being studied in the United States more widely and more energetically than ever before. The chairs of education in the great universities are the natural leaders in this movement. It is carried on also in normal schools, in teachers' training classes and in countless voluntary associations and clubs in every part of the country. Problems of organization and administration, of educational theory, of practical procedure in teaching, of child nature, of hygiene and sanitation, are engaging attention everywhere. Herein lies the promise of great advances in the future. Enthusiasm, earnestness and scientific method are all applied to the study of education in a way which makes it certain that the results will be fruitful. The future of democracy is bound up with the future of education.

The present work passes in review these and many other tendencies in American education. It describes the organization and influence of each type of formal school; it takes note of the more informal and popular organizations for popular education and instruction; it discusses the educational problems raised by the existence of special classes and of special needs, and sets forth how the United States has set about solving these problems. It may truly be said to be a cross-section view of education in the United States in 1900.

NICHOLAS MURRAY BUTLER

Columbia University, New York
March 1, 1900

Department of Education
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United States Commission to the Paris Exposition of 1900

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1

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AND
ADMINISTRATION

BY

ANDREW SLOANE DRAPER
President of the University of Illinois

This Monograph is contributed to the United States Educational Exhibit by the State of New York

EDUCATIONAL ORGANIZATION AND ADMINISTRATION

INTRODUCTORY

Any treatment of the legal organization and the authoritative methods of administration by which the great public educational system of the United States is carried on must almost necessarily be opened by a statement of the salient points in the evolution of that system, for the form of organization and the laws governing the operations of the schools have not preceded, but followed and been determined by the educational movements of the people and the necessities of the case.

The first white settlers who came to America in the early part of the seventeenth century were from the European peoples, who were more advanced in civilization than any others in the world. Each of the nations first represented had already made some progress in the direction of popular education. Such educational ideals as these different peoples possessed had resulted from historic causes, and were very unlike. The influence more potent than any others in determining the character of American civic institutions were English and Dutch. The English government was a constitutional monarchy, but still a monarchy, and the constitutional limitations were neither so many nor so strong as later popular revolutions have made them. English thought accepted class distinctions among the people. The advantages of education were for the favored class, the nobility. The common people expected little. Colleges and fitting schools were maintained for the training of young men of noble birth for places under the government and in the government church, but there were no common schools for all. The nobility were opposed to general education lest the masses would come to recognize God-given rights and demand them, and the masses were yet too illiterate to understand and enforce the inalienable rights of human nature. The Dutch had gone farther than the English; they had just waged a long and dreadful and successful war for liberty, and with all its horrors war has uniformly sharpened the intelligence of a people. This war for civil and religious liberty had enlarged their freedom and quickened their activities; they had become the greatest sailors and the foremost manufacturers in the world; and they had established the government policy of maintaining not only colleges, but common schools for all.

The first permanent white settlers in the United States were English and Dutch. In the beginning they had no thought of ceasing to be Englishmen and loyal subjects of the English monarchy, or Dutchmen with permanent fellowship in the Dutch Republic. They each brought their national educational ideas with them. Each people was strongly influenced by religious feelings, and life in a new land intensified those feelings. The English in Massachusetts were at the beginning very like the English in England. The larger and wealthier and more truly English colony recognized class distinctions and followed the English educational policy. They first set up a college to train their aristocracy for places in the state and the church, and for a considerable time their ministers, either at the church or in the homes, taught the children enough to read the Bible and acquire the catechism. The Dutch, more democratic, with smaller numbers and less means, and more dependent upon their government over the sea, at once set up elementary schools at public cost and common to all. In a few years the English overthrew the little Dutch government and almost obliterated the elementary schools. For a century the English royal governors and the Dutch colonial legislatures struggled over the matter of common schools. The government was too strong for the humble people; little educational progress was made. Near the close of that century the government established King's college to educate sons of noble birth and prevent the spread of republican ideas. The Revolution of 1776 changed all. In fighting together for national independence the different peoples assimilated and became Americans in the new sense. They not only combined their forces in war, but in peace they combined the enlarged intelligence which the war had brought to them. They realized that education in all its phases and grades must be encouraged, and, so far as practicable, made universal under a democracy in which the rights of opportunity were to be equal.

But while they began to be interested in education it was because they saw that schools would help the individual and so promote virtue and extend religion. It did not occur to them at the first that the safety of the new form of government was associated with the diffusion of learning among all the people. This is not strange, for the suffrage was not universal at the beginning of independent government in America. Therefore, while the desirability of education was recognized, it was understood to be the function of parents to provide it for their children, or of guardians and masters to extend it to their wards and apprentices. When schools were first established they were partnership affairs between people who had children in their care, and for their convenience. They apportioned the expense among themselves; such as had no children were without much concern about the matter.

It was soon seen that many who had children to educate would neglect them in order to avoid the expense of contributing to the support of the school. Aside from this the schools were very indifferent affairs. If they were to be of any account they must have recognition and encouragement from government. It was easily conceived to be a function of government to *encourage* schools. Encouragement was given by official and legislative declarations in their behalf and then by authorizing townships to use funds derived from excise fees and other sources for the benefit of the schools when not otherwise needed. It was a greater step to attempt to say that townships should require people, who had children to educate, to maintain schools, and a still greater one to adopt the principle that every child was entitled to at least an elementary education as of right, that this was as much for the safety of the state as for the good of the child, that therefore the state was bound to see that schools were provided for all, and that all the property of all the people should contribute alike to their support. Perhaps it was even a greater step to provide secondary and collegiate, and in many cases professional and technical, training at the public cost. But these great positions were in time firmly taken.

There was nothing like an educational system in the United States at the beginning of the nineteenth century. At that time there were four or five colleges, here and there a private academy or fitting school, and elementary schools of indifferent character in the cities and the thinly settled towns. In the course of the century a great system of schools has come to cover the land. It is free and flexible, adaptable to local conditions, and yet it possesses most of the elements of a complete and symmetrical system. The parts or grades of this system may perhaps be designated as follows:

a) Free public elementary schools in reach of every home in the land.

b) Free public high schools, or secondary schools, in every considerable town.

c) Free land grant colleges, with special reference to the agricultural and mechanical arts, in all the states.

d) Free state universities in practically all of the southern states and all the states west of Pennsylvania.

e) Free normal schools, or training schools for teachers, in practically every state.

f) Free schools for defectives, in substantially all of the states.

g) National academies for training officers for the army and navy.

h) A vast number of private kindergartens, music and art schools, commercial schools, industrial schools, professional schools, denominational colleges, with a half dozen leading and privately endowed universities.

This mighty educational system has developed with the growth of towns and cities and states. It has been shaped by the advancing sagacity of the people. Above all other of American civic institutions, it has been the one most expressive of the popular will and the common purposes. Everywhere it is held in the control of the people, and so far as practicable in the control of local assemblages. While the tendencies of later years have, from necessities, been towards centralization of management, the conspicuous characteristic of the systems has always been the extent to which the elementary and secondary schools are controlled and directed by each community. The inherent and universal disposition in this direction has favored general school laws and yielded to centralized administration only so far as has come to be necessary to life, efficiency and growth. But circumstances have made this necessary to a very considerable extent.

Bearing in mind the historic facts touching the development of the school system, we may proceed to consider the legal organization and authoritative scheme of administration which have arisen therefrom. We will begin with the most elementary and decentralized form of organization and proceed to the more general and concentrated ones, following the steps which have marked the growth of the system in a general way, but with no thought of tracing the particular lines of educational advancement in the several states.

THE SCHOOL DISTRICT

The "school district" is the oldest and the most primary form of school organization. Indeed, it is the smallest civil division of our political system. It resulted from the natural disposition of neighboring families to associate together for the maintenance of a school. Later it was recognized by law and given some legal functions and responsibilities. Its territorial extent is no larger than will permit of all the children attending a single school, although it sometimes happens that in sparsely settled country the children have to go several miles to school. It ordinarily accommodates but a few families: districts have had legal existence with but one family in each: many with not more than a half dozen families. It is better adapted to the circumstances of the country than to those of the town or city. A different form has been provided for the considerable towns, and still another for the cities as they have developed. The "district system" is in operation in most of the states, and in such the number of districts extends into the thousands. In New York, for example, there are over eleven thousand and in Illinois over twelve thousand school districts.

The government of the school district is the most simple and democratic that can be imagined. It is controlled by school meetings composed of the resident legal voters. In many of the states women have been constituted legal voters at school meetings. These meetings are held at least annually and as much oftener as may be desired. They may vote needed repairs to the primitive schoolhouse and desirable appliances for the school. They may decide to erect a new schoolhouse. They may elect officers, one or more, commonly called trustees or directors, who must carry out their directions and who are required by law to employ the teacher and have general oversight of the school. Although the law ordinarily gives the trustees free discretion in the appointment of teachers, provided only that a person duly certificated must be appointed, yet it not infrequently happens that the district controls the selection of the teacher through the election of trustees with known preferences.

Much has been said against the district system, and doubtless much that has been said has been justified. At the same time it cannot be denied that the system has had much to commend it. It has suited the conditions of country life:

it has resulted in schools adapted to the thought and wants of farming people: it has done something to educate the people themselves, parents as well as children, in civic spirit and patriotism: and it has afforded a meeting place for the people within comfortable reach of every home. The school has not always been the best, but it has been ordinarily as good as a free and primitive people would sustain or could profit by. It is true that the teachers have generally been young and inexperienced, but they have not yet been trained into mechanical automatons, and as a rule they have been the most promising young people in the world, the ones who, a few years later, have been the makers of opinion and the leaders of action upon a considerable field. Certainly the work has lacked system, continuity and progressiveness, the pupils have commenced at the same place in the book many times and never advanced a great distance, but, on the other hand, the children in the country schools have had the home training and the free, natural life which has developed strong qualities in character and individual initiative in large measure, and so have not suffered seriously, in comparison with the children living in the towns. The district system has sufficed well for them and it has otherwise been of much advantage to the people; and with all its shortcomings, or the abuses that are common where it prevails, they are hardly worse than are found under more pretentious systems. Surely the "American District School System" is to be spoken of with respect, for it has exerted a marked influence upon our citizenship, and has given strong and wholesome impulses in all the affairs of the nation.

THE TOWNSHIP SYSTEM

While in the first half of the century the general educational purpose seems to have been to make the district system more perfect, the tendency in the latter half has unmistakably been to merge it into a more pretentious organization, covering a larger area, and capable of larger undertakings. The cause of this has been the desire for larger schools, taught by teachers better prepared, and capable of broader and better work, as well as the purpose to distribute educational advantages more evenly to all the people. Accordingly, in most of the states there has been a serious discussion of the relative advantages of the township as against the district system, and in quite a number of the states the former has already supplanted the latter.

The township system makes the township the unit of school government. It is administered by officers chosen at annual town meetings, or sometimes by central boards, the members of which are chosen by the electors of different sub-districts. In any event, the board has charge of all the elementary schools of the township, and if there is one, as is frequently the case, of the township high school. The board, following the different statutes governing them and the authorized directions of the township school electors, provides the buildings and cares for them, supplies the needed furnishings and appliances, employs the teachers, and regulates the general operations of the school.

It is at once seen that the township system is much less formally democratic and much more centralized than the district system. It has doubtless produced better schools and schools of more uniform excellence. One of its most beneficent influences has been the multiplication of township high schools, in which all the children of the township have had equality of rights. These high schools have given an uplifting stimulus to all the elementary schools of the township, and have led all the children to see that the work of the local school is not all there is of education, and given many of them ambitions to master the course of the secondary school.

Very much has been said upon the subject, but it is not necessary to go into it at length here. The township system has many advantages over the district system for a people who are ready for it. It is adapted to the development and to the administration of a higher grade of schools and very likely to better schools of all grades. It is a step, and an important step, towards that general centralization in management and greater uniformity of improved methods of supervision and instruction now so manifest throughout the school system of the United States.

THE COUNTY SYSTEM

The southern states, most if not all of them, have a county system of school administration. This has not resulted from the development of the school system, but from the general system of county rather than township government prevalent in all the affairs of the southern states from the beginning, and easily traceable to historic causes. The county is the unit of school government in the southern states, because it has been the unit of all government.

The county system is not constituted identically in all of the southern states of the union. In Georgia, for example, the grand jury of each county selects from the freeholders five persons to comprise the county board of education; in North Carolina the justices of the peace and county commissioners of each county appoint such a county board of education, while in Florida such a board is elected by the people biennially, and in some states a county commissioner or superintendent of schools is the responsible authority for managing the schools of the county. In Georgia "each county shall constitute one school district," but in several of the states the county board or superintendent divides the territory into sub-districts and appoints trustees or directors in each. In the latter case the local trustees seem to be ministerial officers carrying out the policy of the county board. In any case the unit of territory for the administration of the schools is the county, and county officials locate sites, provide buildings, select text-books, prescribe the course of work, examine and appoint teachers, and do all the things which are within the functions of district or township trustees or city boards of education in the northern states.

THE CITY SCHOOL SYSTEMS

As communities have increased in population they have outgrown any primary or elementary system of organization for school purposes. Laws of general application or common usage in a county sparsely settled would not suffice for a city of many thousands of people. In such cities the people could not meet to fix the policies and manage the business of the schools: they could not meet even to choose officers to manage the schools. So the state legislatures have made special laws to meet the circumstances of the larger places. In some states these laws are uniform for all cities of a certain class, that is, cities having populations of about the same number, but more often each city has gone to the legislature and procured the enactment of such statutes as seemed suited to the immediate circumstances.

Because of this there is no uniform or general system of public school administration in the American cities. Of course there are some points of similarity. In nearly every case there is a board of education charged with the management of the schools, but these boards are constituted in almost as many different ways as there are different cities, and their legal functions are as diverse as there is diversity in cities. In the city of Buffalo, New York state, the school affairs are managed by a committee appointed by the city council, but happily this case stands by itself, and the evil consequences possible under such a scheme have been much ameliorated in this particular case for the last half dozen years by a most excellent superintendent of schools, elected by the people of that city.

In the greater number of cities the boards of education are elected by the people, in some cases on a general city ticket, and again by wards or sub-districts; in some places at a general or municipal election, and in others at elections held for the particular purpose. But in many cities, and particularly the larger ones, the boards are appointed by the mayor alone, or by the mayor and city council acting jointly. In the city of Philadelphia the board is appointed by the city judges, in Pittsburgh by local directors, and in New Orleans by the state board of education. In a few instances the board is appointed by the city councils.

In the city of Cleveland, Ohio, the board of education consists of two branches: a school director elected by the people for the term of two years, and a school council of seven members, likewise elected by the people in three groups with terms of three years each. This scheme was devised in 1892 by prominent business men of the city, and, having been enacted by the legislature, has been in very satisfactory operation since.

It must be said that there has been much dissatisfaction with the way school affairs have been managed in the larger cities. In the smaller places, even in cities of a hundred thousand or more inhabitants, matters have gone well enough as a general rule, but in the greater cities there have been many and serious complaints of the misuse of funds, of neglect of property, of the appointment of unfit teachers, and of general incapacity, or worse, on the part of the boards. Of course it is notorious that the public business of American cities has very commonly been badly managed. It would not be true to say that the business of the schools has suffered as seriously as municipal business, but it certainly has been managed badly enough.

All this has come from the amounts of money that are involved and the number of appointments that are constantly to be made. More than a hundred millions of dollars are paid annually for teachers' wages alone in the United States. People who are needy have sought positions as teachers without much reference to preparation, and the kindly disposed have aided them without any apparent appreciation of the injury they were doing to the highest interests of their neighbors. Men engaged in managing the organizations of the different political parties have undertaken to control appointments in the interests of their party machines. And the downright scoundrels have infested the school organization in some places for the sake of plunder.

As cities have grown in size and multiplied in numbers, the more scandal there has been. And American cities have grown marvelously. In 1790 there was but one having between eight and twelve thousand inhabitants: in 1890 there were one hundred and forty-seven such. By the census of the latter year there were fourteen cities having between seventy-five thousand and one hundred and twenty-five thousand inhabitants. Now there are certainly a dozen with more than a half million of people each. The aggregate population of a dozen cities exceeds the aggregate population of twenty states. But if the troubles have multiplied and intensified as the cities have grown, so has the determination of the people strengthened to remedy the difficulties.

There has been no more decided and no more healthy educational movement in the United States in recent years, and none with greater or more strongly intrenched obstacles in its way, than that for better school organization and administration in the larger cities. Its particular features or objective points are pointed out by the committee of fifteen of the National educational association in the following declarations:

" In concluding this portion of the report, the committee indicates briefly the principles which must necessarily be observed in framing a plan of organization and government in a large city school system.

First. The affairs of the school should not be mixed up with partisan contests or municipal business.

Second. There should be a sharp distinction between legislative functions and executive duties.

Third. Legislative functions should be clearly fixed by statute and be exercised by a comparatively small board, each member of which is representative of the whole city. This board, within statutory limitations, should determine the policy of the system, levy taxes, and control the expenditures. It should make no appointments. Every act should be by a recorded resolution. It seems preferable that this board be created by appointment rather than election, and that it be constituted of two branches acting against each other.

Fourth. Administration should be separated into two great independent departments, one of which manages the business interests and the other of which supervises the instruction. Each of these should be wholly directed by a single official who is vested with ample authority and charged with full responsibility for sound administration.

Fifth. The chief executive officer on the business side should be charged with the care of all property and with the duty of keeping it in suitable condition: he should provide all necessary furnishings and appliances: he should make all agreements and see that they are properly performed: he should appoint all assistants, janitors, and workmen. In a word, he should do all that the law contemplates and all that the board authorizes, concerning the business affairs of the school system, and when anything goes wrong he should answer for it. He may be appointed by the board, but we think it preferable that he be chosen in the same way the members of the board are chosen, and be given a veto upon the acts of the board.

Sixth. The chief executive officer of the department of instruction should be given a long term and may be appointed by the board. If the board is constituted of two branches, he should be nominated by the business executive and confirmed by the legislative branch. Once appointed he should be independent. He should appoint all authorized assistants and teachers from an eligible list to be constituted as provided by law. He should assign to duties and discontinue services for cause, at his discretion. He should determine all matters relating to instruction. He should be charged with the responsibility of developing a professional and enthusiastic teaching force, and of making all the teaching scientific and forceful. He must perfect the organization of his department and make and carry out plans to accomplish this. If he cannot do this in a reasonable time he should be superseded by one who can."

It ought to be said before passing from this phase of the subject that these principles have made much headway, and that the promise is excellent. There is not a city of any importance in the country in which they are not under discussion, and there are few in which some of them have not been adopted and put in operation.

The powers of the city boards of education are very broad, almost without limits as to the management of the schools. They commonly do everything but decide the amount of money which shall be raised for the schools, and in some cases even that high prerogative is left to them. They purchase new sites, determine the plans and erect new buildings, provide for maintenance, appoint officers and teachers, fix salaries, make promotions, and, acting within very few and slight constitutional or statutory limitations, enact all of the regulations for the control of the vast system.

The high powers, cheerfully given by the people to school boards, have arisen from the earnest desire that the schools shall be independent and the teaching of the best. Of course these independent and large prerogatives are exceedingly advantageous to educational progress when exercised by good men : when they fall into the hands of weak or bad men they are equally capable of being put to the worst uses. And it is not to be disguised that in some of the foremost cities they have fallen into some hands which are corrupt, but more often into the hands of men of excellent personal character, but who do not see the importance of applying pedagogical principles to instruction, and who are, in one way or another, used by designing persons for partizan, selfish or corrupt purposes. Of course it is not to be implied that there are not to be found in every school board men or women with clear heads and stout hearts who understand the essential principles of sound school administration and are courageously contending for them. Nor must the serious difficulty of holding together pupils from such widely different homes in common schools be lost sight of. And again, the obstacles in the way of choosing and training a teaching force of thousands of persons, and of continually energizing the entire body with new pedagogical life, must be remembered. And yet again, the dangers of corruption where millions of dollars are being annually disbursed by boards which are practically independent, are apparent. But, notwithstanding all of the hindrances, the issue is being joined and the battle will be fought out to a successful result. There can be but one outcome. The forces of decency and progress always prevail in the end.

The demands of the intelligent and sincere friends of popular education in our great cities are for a more scientific plan of organization which shall separate legislative and executive functions, which shall put the interests of teachers upon the merit basis and leave them free to apply pedagogical principles to the instruction, which shall give authority to do what is needed and protect officers and teachers, while it locates responsibility and provides the way for ousting the incompetent or the corrupt. The trouble has been that the boards were independent and the machine so ponderous and the prerogatives and responsibilities of officials so confused that people who were aggrieved could not get a hearing or could not secure redress, perhaps for the reason that no one official had the power to afford redress. What is demanded and what is apparently coming is a more perfect system, which will give one credit for good work in the schools and enable a parent to point his finger at and procure the dismissal of one who inflicts upon his child a school room which is not wholesome and healthful, or a teacher who is physically, pedagogically or morally unfit to train his child.

THE STATES AND THE SCHOOLS

Since the American school system has come to be supported wholly by taxation, it has come to depend upon the exercise of a sovereign power. In the United States the sovereign powers are not all lodged in one place. Such as have not been ceded to the general government are retained by the states. The provision and supervision of schools is one of these. Hence the school system, while marked by many characteristics which are common throughout the country, has a legal organization peculiar to each state.

The dependence upon state authority which has thus arisen has gone farther than anything else towards the development of a *system* and towards the equalization of school privileges to the people of the same state. Naturally indisposed to relinquish the management of their own school affairs in their own way, they have been obliged to bow to the authority of their states, in so far as the state saw fit to assert its authority, because they could not act without it, as counties, cities, townships and districts have no power whatever to levy taxes for school purposes except as authorized by the state. They have become reconciled to the intervention of state authority, moreover, as they have seen that such authority improved the schools.

Of such improvement by such intervention there can be no doubt. In many cases state school funds have been created, or large sums are raised by general levy each year, which are distributed so as to give the most aid to the sections which are poorest and most need it. In the state of New York, for example, the cities pay more than half a million of dollars every year to the support of the schools in the country districts. In practically all of the states excellent normal schools are maintained to prepare teachers for the elementary and secondary schools. In all of the southern and western states great state universities are sustained as parts of the state school systems. In ten universities of the North-Central division of states there are twenty thousand students in college and professional courses, and the work is of as high grade and of as broad range as in the oldest universities of the country. These things are exerting strong influences upon the sentiment of the people of the different states and increasing their respect for the authority of their states over their schools.

And the application of state authority to all of the schools supported by public moneys of course makes them more alike and better. The whims of local settlements disappear. The schoolhouses are better. More is done for the preparation of teachers, and more uniform exactions are put upon candidates for the teaching service. The courses of study are more quickly and symmetrically improved. There is criticism and stimulus from a common center for all of the educational work of the state.

The different states have gone to very different lengths in exercising their authority. The length to which each has gone has depended upon the necessity of state intervention by the exercise of the taxing power, or of delegating that power to subdivisions of the territory, and upon the sentiment of the people. In most cases it has been determined by the location of the point of equipose between necessity and free consent. The state government has, of course, not been disposed to go farther than the people were willing, for all government is by the people. The thought of the people in the different states has been somewhat influenced by considerations which arise out of their early history, but doubtless in most cases it is predicated upon their later experiences.

All of the state constitutions now contain provisions relating to popular education. This was not true of the original constitutions of all of the older states, for when they were adopted the maintenance of schools was looked upon as a personal or local rather than a state concern. But later amendments have since introduced such provisions into all of the older state constitutions. And all of the newer ones have contained strong and elaborate sections, making it a fundamental duty of the government they established to encourage education and provide schools for all.

Of course, all of the states have legislated much in reference to the schools, and there is scarcely a session of one of the state legislatures in which they do not receive considerable attention. In all of the states there is some sort of a state school organization established by law. In practically all there is an officer known as the state superintendent of public instruction, or the state school commissioner. In some there is a state board of education. In New York there is a state board of regents in charge of the private academies, in some measure of the public secondary schools, and of all of the higher institutions; and also a state superintendent of public instruction, with very high authority over the elementary schools and in a large measure over the public high schools.

The officer last referred to doubtless is vested with larger authority than any other one educational official in the country. He apportions the state schools funds; he determines the conditions of admission, the courses of work and the employment of teachers, and audits all the accounts of the twelve normal schools of the state; he has unlimited authority over the examination and certification of teachers; he regulates the official action of the school commissioners in all of the assembly districts of the state; he appoints the teachers' institutes, arranges the work, names the instructors, and pays the bills. He determines the boundaries of school districts. He provides schools for the defective classes and for the seven Indian reservations yet remaining in the state. He may condemn schoolhouses and require new ones to be built. He may direct new furnishings to be provided. He is a member of the state board of regents and of the board of trustees of Cornell university. He may entertain appeals by any person conceiving himself aggrieved from any order or proceeding of local school officials, determine the practice therein, and make final disposition of the matter in dispute, and his decision cannot be "called in question in any court or in any other place."

All this, with the splendid organization of the state board of regents, unquestionably provides New York with a more complete and elaborate educational organization than any other American state.

There are some who think that it is more elaborate and authoritative than necessary; that it unduly overrides local freedom and discourages individual initiative. One who has been a part of that system, and who has also been associated with educational work where there is but very slight state supervision, will hardly be disposed to think so. But it is certainly exceptional among the states. Most of them undertake to regulate school affairs but very little. In the larger number of cases the state board of education only controls the purely state educational institutions, and the principal functions of the leading educational official of the state are to inspire action through his addresses and gather statistics and disseminate information deducible therefrom.

However, there can be no doubt about the general tendency being strongly towards greater centralization. Not only are its advantages quite apparent, but the overwhelming current of legislation and of the decisions of the courts is making it imperative. These are practically in accord, and are to the effect that in each state the school system is not local, but general; not individual schools controlled by separate communities, but a closely related system of schools which has become a state system and is entirely under state authority. Local school officials are now uniformly held to be agents of the state for the administration of a state system of education.

The granting of aid by the state, the necessity of the exercise of powers without which the schools cannot live, and which powers reside exclusively in the state, implies the right of the state to name the conditions upon which the aid shall be received, and the duty to see that the exercise of such powers shall result in equal advantages to all.

Widely dissimilar conditions lead different states to a greater or lesser appreciation of their educational responsibilities and make them more or less able or disposed to exercise their legal functions to the full measure of their good. Yet all are appreciating the fact that a constitutional, self-governing state exists for the moral and intellectual advantage of every citizen and for the common progress of the whole mass. All are moving as best they are able, and according to the light they have, in fulfillment of wise public policy and constitutional obligation. They have employed and will continue to employ different methods. Some will act directly through state officials: some will delegate a large measure of authority to local boards and officials so long as it seems well: but all have the highest authority, the supreme responsibility in the matter, and under the influence of the later knowledge will undo whatever may be necessary, and take whatever new steps may be necessary, to carry the best educational opportunities to every child.

And it is the purpose of the people and the law of most of the states that such educational opportunities shall not only be provided for every American child, but that every one shall be required to take advantage of them. Compulsory attendance laws have been enacted in most of the states. These are not as carefully framed as a good knowledge of educational administration might very easily lead them to be, and they are not as completely enforced as the true interests of many unfortunate children require, yet it may be said safely that the right and the duty of the state to educate them is recognized, and that the tendency towards greater thoroughness in the way of making education universal as a safeguard to our free citizenship is general.

It was not so in the beginning, but American public schools are rapidly coming to be related together in a system of schools, that system a state system, and at once the most flexible and adaptable to our manner of living, our social ideals and our national ambitions.

THE GENERAL GOVERNMENT AND EDUCATION

As already pointed out, the authoritative management of the schools has never been conferred upon the general government, but is reserved to and exercised by the several states. What might have been done at the time of the framing of the federal constitution, if it had been supposed that in a few years the support and management of schools would develop into a government function, can only be speculated upon. It is well known that the members of the first constitutional convention were not indifferent to education. But their view of the subject was the view of all men of their time, *i. e.*, that it was highly desirable that all social organizations should encourage, perhaps even by that time that it was proper for government to see that schools were maintained, but that the real responsibility, and of course the expense, should fall upon people legally chargeable with the custody of children. The functions of government touching education were not then under consideration at all, and when they forced themselves upon public attention the towns, and, when the exercise of the power of taxation became imperative, the states assumed them as they were bound to do.

Accordingly, the federal government has never exercised any control over the public educational work of the country. But it may be said with emphasis that that government has never been indifferent thereto. It has shown its interest at different times by generous gifts to education, and by the organization of a bureau of education for the purpose of gathering the fullest information from all of the states, and from foreign nations as well, and for disseminating the same to all who would be interested therein.

The gifts of the United States to the several states to encourage schools have been in the form of land rights from the public domain. In the sale of public lands the practice of reserving one lot in every township "for the maintenance of public schools within the township" has uniformly been followed. In 1786 officers of the revolutionary army petitioned congress for the right to settle territory north and west of the Ohio river. A committee reported a bill in favor of granting the request, which provided that one section in each township should be reserved for common schools, one section for the support of religion, and four townships for the support of a university. This was modified so as to give one section for the support of religion, one for common schools, and two townships for the support of a "literary institution to be applied to the intended object by the legislature of the state." This provision, coupled with the splendid declaration that "religion, morality and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged," foreshadowed the general disposition and policy of the central government and made the "Ordinance of 1787 for the government of the Northwest territory" famous. The precedent here established became national policy, and after the year 1800 each state admitted to the Union, with the exception of Maine, Texas and West Virginia, received two or more townships of land for the founding of a university. In 1836 congress passed an act distributing to the several states the surplus funds in the treasury. In all $28,101,645 was so distributed, and in a number of the states this was devoted to educational uses.

But the most noble, timely, and carefully guarded gift of the federal government was embodied in the land grant act of 1862 for colleges of agriculture and the mechanic arts. This act gave to each state thirty thousand acres of land for each senator and representative in congress to which the state was entitled under the census of 1860, for the purpose of founding "at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the states shall respectively prescribe, in order to promote the liberal education of the industrial classes in the several pursuits and professions of life." This act has been added to by other congressional enactments and the proceeds of the sales of lands have been generously supplemented by the state legislatures until great peoples' colleges and universities have arisen in all of the States.

The work of the United States bureau of education is a most exact, stimulating and beneficent one. Without exercising any authority, it is untiring and scientific in gathering data, in the philosophic treatment of educational subjects, and in furnishing the fullest information upon every conceivable phase of educational activity to whomsoever would accept it. Its operations have by no means been confined to the United States. It has become the great educational clearing house of the world. The commissioners who have been at the head of this bureau have been eminent men and great educational leaders. The present commissioner, Dr. William T. Harris, stands without a peer as the most philosophical thinker and the readiest writer upon educational subjects in the world. Under such fortunate direction the bureau of education has collected the facts and made most painstaking research into every movement in America and elsewhere which gave promise of advantage to the good cause of popular education.

So, while the government of the United States is not chargeable under the constitution with providing or supervising schools, and while it does not exercise authority in the matter, it will be quickly seen that it has been steadily and intelligently and generously true to the national instinct to advance morality and promote culture by its influence and its resources.

PRIVATE INSTITUTIONS

Up to this time we have been treating of the American public school system, using the term in its strictest sense. We have been referring to the schools supported by public moneys and supervised by public officers. Yet there is an infinite number of other schools which comprise an important part of the educational system of the country and are of course subject to its laws. Any statement concerning American school organization and administration, even of the most general character, would be incomplete which did not cover these, but obviously it is not desirable in this connection to do more than touch upon the relation in which they stand, by common usage and under the laws, to American education.

In the first half of the century just closing many private "academies" or "seminaries" sprang up in all directions where the country had become at all settled. This was in response to a demand from people who began to reach out, but could not get what they wanted in the common schools. Any teacher with a little more than ordinary gifts could open one of these schools upon a little higher plane than usual and very soon have an abundance of pupils and a profitable income. Many of these institutions did most excellent work. Not a few of the leading citizens of the country owe their first inspiration and much help to them. The larger part of these schools served their purpose and finally gave way to new public high schools. Some yet remain and continue to meet the desires of well-to-do and select families who prefer their somewhat exclusive ways. A considerable number have been adopted by their states and developed into state normal schools, and not a few have by their own natural force grown into literary colleges.

The earlier American colleges were, in the beginning, in a large sense the children of the state. Yale, Harvard, Princeton, Columbia were all chartered by and in some measure supported by their states at the start, and are yet subject to the law, though they have become independent of such support. A vast number of colleges has been established by the religious denominations for the training of their ministry, and, so far as possible, for giving all their youth a higher education while keeping them under their denominational influence.

In recent years innumerable schools have arisen out of private enterprise. Every conceivable interest has produced a school to promote its own ends and accordingly adjusted to its own thought. So professional, technical, industrial and commercial schools of every kind have sprung up on every hand.

All such schools operate by the tacit leave of the states in which they exist. The states are not disposed to interfere with them, as they ask no public support. Some of them hold charters granted by the legislature, and more secure recognized standing by organizing under general corporation laws enacted to cover all such enterprises. In some cases the states distribute public moneys to some of these institutions by way of encouragement, and perhaps impose certain conditions upon which they shall be eligible to share in such distributions. But ordinarily a state does no more than protect its own good name against occasional impostors who wear the livery of heaven to serve the devil more effectually, and it is feared that some states have not yet come to do this as completely as they ought.

The tendency to regulate private schools by legislation, to the extent at least of seeing that they are not discreditable to the state, is unmistakable. New York, for example, has prohibited the use of the name "college" or "university" except when the requirements of the state board of regents are met. All of the reputable institutions,— and they constitute nearly the whole number,— desire reasonable supervision, for it certifies their respectability and constitutes them a part of the public educational system of the state.

EXPERT SUPERVISION

It has not been convenient in tracing the preceding pages to treat of an exceedingly important phase of the American school system which distinguishes that system from any other national system of education, and which has come to be well established in our laws; that is, supervision by professional experts, both generally and locally.

From the beginning the laws have provided methods for certificating persons deemed to be qualified to teach in the schools. This has ordinarily been among the functions of state, city, and county superintendents or commissioners. Sometimes boards of examiners have been created whose only duty should be to examine and certificate teachers. The functions of certificating and of employing teachers have, for obvious reasons, not commonly been lodged in the same officials. Superintendents began to be provided for by law in the early part of the century. The first state superintendency was established by New York in 1812. Other states took similar action in the next thirty years. Town, city and county superintendencies came along rapidly, and by or soon after the middle of the century had been set in operation in most parts of the then settled country.

The main duty of these officials in the earlier days was to examine candidates for teaching, report statistics, and make addresses on educational occasions. In later years, however, they are held in considerable measure responsible for the quality of the teaching. In the country districts the superintendents hold institutes, visit the schools, commend and criticise the teaching, and exert every effort to promote the efficiency of the schools, until a discreet and active county superintendent comes to exert almost a controlling influence over the school affairs of his county.

In the cities, and particularly the larger ones, the problem is much more difficult. The teachers are much greater in number and the task of securing persons of uniform excellence is much enlarged. The schools are less homogeneous and instruction less easy. Frequently the superintendent cannot know the personal qualities of each teacher, or even visit all of the schools. Yet a system must be organized by which, through the aid of assistants, the superintendent's office will be advised fully of the work of every teacher in the system. And if the system is to have anything like uniform excellence, if the rights of children are to be met, and the instruction is to have life in it, all teachers must be upon the merit basis, the most deserving must be advanced in rank and pay as rapidly as practicable, and the weak must be helped and trained into efficiency or removed from their positions.

The laws are coming to recognize the responsibilities and difficulties of the superintendent's position, and are continually throwing about that officer additional safeguards and giving him larger powers and greater freedom of action. The great issue that is now on in American school affairs is between education and politics. The school men are insisting upon absolute immunity from political influence in their work. It would doubtless seem strange to people of other nations not familiar with our political conditions, that such insistence may be necessary. Pure democracy has its troubles. The machinations of men who are seeking political influence constitute the most serious of them. However, the good cause of education against political manipulation is making substantial progress. The law books of all of the states show provisions recognizing the professional school superintendent: in many of the states they contain provisions directing and protecting his work: and in some of them they are beginning to confer upon him entire authority over the appointment, assignment and removal of teachers, while they impose upon him entire responsibility for the quality of the teaching.

It is this professional supervision, by states and counties as well as by towns and cities, taken up almost spontaneously at the beginning and early established and compensated by law, which has given the American schools their peculiar spirit. As intelligence has advanced and the people have come to know the worth of good teaching and have been unwilling that their children should be associated with teachers who have not the kindly spirit of a true teacher, or be kept marking time by incompetents, they have favored larger exactions and closer supervision over the teaching, to the end that it might be in accord with the best educational opinion. All this is yearly becoming more and more apparent in the laws, and it is advancing the great body of American teachers along philosophical lines more steadily and rapidly than any other great body of teachers in the world is advancing. American teachers have always had freedom. Now they are learning to exercise it, and they are being permitted to exercise it, in accord with educational principles.

CONCLUSION

In conclusion a few facts touching the great school system, the legal organization of which we have briefly tried to sketch, and which has produced that organization and in turn has in part been produced by it, will be of interest. The enrollment of pupils in the state common schools alone was, in 1895–6, 14,379,078. These schools were kept open an average of 140.5 days in the year. The number of teachers employed was 130,366 males and 269,959 females, a total of 400,325. The total value of the public school property was $455,948,164, and the running expenses for the year were $184,453,780. There was raised by taxation $163,023,294. Of institutions above the grade of elementary schools there were 677 colleges and universities, with 97,134 collegiate students and 69,014 preparatory students. Some of these are too ambitious in calling themselves "colleges," it is true, yet all are doing work that counts, and educational nomenclature is straightening itself out slowly but steadily. There were 5,108 public high schools with 409,433 secondary pupils, and there were 2,100 private high schools and academies with 107,633 secondary pupils. There were 77 law schools with 10,449 students, 148 medical schools with 24,265 pupils, 157 theological schools with 8,173 students, and 362 normal schools with 67,380 students. In cities of over 8,000 inhabitants there were 601 schools with 3,590,875 pupils. In the whole country there were 7,184 public libraries with 34,596,258 volumes.

In the year 1896 there was paid for teachers' and superintendents' wages in the common schools $116,377,778, or 63.1 per cent of the total expenditure for school purposes.

Laws making attendance at school compulsory have been enacted in 32 states and territories.

One of the most gratifying facts in connection with the educational work of the United States is the large increase in the number of graduate students in the colleges. The following table exhibits the number of resident graduate students in universities and colleges of the United States for 25 years and down to as late a time as the figures are available :

1871–'72	198	1880–'81	460	1889–'90	1,717
1872–'73	219	1882–'83	522	1890–'91	2,131
1873–'74	283	1883–'84	778	1891–'92	2,499
1874–'75	369	1884–'85	869	1892–'93	2,851
1875–'76	399	1885–'86	935	1893–'94	3,493
1876–'77	389	1886–'87	1,237	1894–'95	3,999
1877–'78	414	1887–'88	1,290	1895–'96	4,363
1878–'79	465	1888–'89	1,343	1896–'97	4,919
1879–'80	411				

The United States bureau of education, to which I am indebted for the foregoing figures and much other information, is aided by a corps of 15,000 voluntary correspondents who furnish printed reports and catalogs and cheerfully answer the bureau's inquiries upon every phase of educational work.

It is of course difficult for one not familiar with American institutions and American ways to understand or appreciate the American school system. To him it seems anything but a *system.* It is a product of conditions in a new land, and it is adapted to those conditions. It is at once expressive of the American spirit and it is energizing, culturing and ennobling that spirit. It is settling down to an orderly and symmetrical institution, it is becoming scientific, and it is doing its work efficiently. It exerts a telling influence upon every person in the land, and is proving that it is supplying an education broad enough and of a kind to support free institutions.

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MONOGRAPHS ON EDUCATION
IN THE
UNITED STATES

EDITED BY
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KINDERGARTEN EDUCATION

BY

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Cazenovia, New York

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KINDERGARTEN EDUCATION

The history of the kindergarten in America is the record of four sharply defined movements ; the pioneer movement, whose point of departure was the city of Boston ; the philanthropic movement, whose initial effort was made in the village of Florence, Mass., and whose greatest triumphs have been achieved in San Francisco ; the national movement, which emanated from St. Louis ; and the great maternal movement which, radiating from Chicago, is now spreading throughout the United States. The first of these movements called public attention to the several most important aspects of the Froebelian ideal ; the second demonstrated the efficiency of the new education as a redemptive force ; the third is making the kindergarten an integral part of the national school system ; the fourth is evolving a more enlightened and consecrated motherhood and thereby strengthening the foundations and elevating the ideals of American family life.

In 1840 the first kindergarten was established by Friedrich Froebel at Blankenburg, Germany. Nineteen years later Miss Elizabeth Peabody of Boston became interested in Froebel's writings. In 1867 she went to Germany to study the kindergarten system. Returning to America in 1868 she devoted the remainder of her life to the propagation of Froebel's educational principles. Through her apostolic labors parents were inspired to seek the help of the kindergarten in the education of their children ; philanthropists were incited to establish charity kindergartens ; the Boston school board was persuaded to open an experimental kindergarten in one of its public schools and a periodical devoted to the elucidation and dissemination of Froebelian ideals was founded and sustained for four years. The pioneer movement, therefore, broke paths in the four directions of private,

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public, philanthropic and literary work. Above all through the contagious power of devout enthusiasm it created the consecrated endeavor without which the kindergarten as Froebel conceived it can have no actual embodiment.

In 1872 an independent pioneer movement was begun in New York by Miss Henrietta Haines who invited Miss Boelte to conduct a kindergarten in her school for young ladies. Miss Boelte had studied three years with Froebel's widow, had won a high reputation in Germany, and later had done efficient work in England. About a year after her arrival in America she married Prof. John Kraus and established an independent kindergarten and normal class. Her normal work still continues and she is to-day the leading representative in America of the Froebel tradition. The power of her work results from her resolute adherence to all the details of the original Froebelian method. By this unswerving conformity she has kept alive, through their practical application, ideas which are of the highest importance to the theoretic development of the kindergarten system.

In 1874 Mr. S. H. Hill, of Florence, Mass., contributed funds to open the first charity kindergarten in the United States and later put in trust a sum sufficient to sustain and extend the work. Four years later a philanthropic movement was initiated in Boston by Mrs. Quincy A. Shaw, who for the ensuing fourteen years supported free kindergartens for poor children, these beneficent institutions reaching at one time to thirty in number. The influence of her noble example has doubtless conspired with other causes to create the one hundred and fifteen local associations which are now rendering efficient service to the Froebelian cause in different sections of the United States. Of such philanthropic associations the wealthiest and best organized is the Golden Gate association of San Francisco. At the time of its greatest prosperity this organization supported forty-one kindergartens; had given training to more than thirty thousand children; had received in endowments and other forms of contribution five hundred thousand dollars; and had published and distributed over eighty thousand annual reports. Unfortunately the financial depression of 1893 reduced its subscription list and at present it supports only twenty-three kindergartens. A training school for kindergartners is conducted under its auspices. Other associations deserving of special mention are the New York kindergarten association, which supports seventeen kindergartens, and whose aim is to provide for the children against whom the overcrowded public schools still close their doors; the Brooklyn association, which provides for sixteen kindergartens, and under whose auspices there were conducted during the past year one hundred and eighty-three mothers' meetings; the Pittsburgh and Allegheny free kindergarten association, which in six years has established twenty-eight kindergartens, with an enrollment of fourteen hundred children; the Cincinnati association, which supports twenty-four kindergartens; the Free kindergarten association of Chicago, which supports eighteen kindergartens and has a flourishing normal school; the Chicago Froebel association, whose president organized the first charity kindergarten in that city, and to the veteran leader of whose normal department is due in large measure the introduction of the kindergarten into the Chicago public schools; the Louisville association, which supports nine kindergartens, and has parents, nurses, Sunday school, boarding and normal departments.

Valuable as is the work accomplished by private kindergartens and kindergarten associations, it is necessarily a restricted work; and had the Froebelian movement developed only upon these lines the kindergarten must have remained forever the privilege of the wealthy few, and the occasional gift of charity to the abject poor. The public kindergarten opened in Boston, though carried on for several years, was finally given up upon the plea that the city could not afford to appropriate funds to extend the system, and a second public kindergarten, which was opened in Brighton, Mass., in January, 1873, was abolished when Brighton was annexed to Boston in 1874. Meantime, however, Hon.

William T. Harris, the present United States commissioner of education, who was then superintendent of schools in St. Louis, had called attention to the kindergarten and suggested that experiments be made with a view to introducing into the public school such features of the system as might prove helpful in the education of children between the ages of four and six. The outcome of this suggestion was the opening of an experimental kindergarten in the fall of 1873. The work was approved by the school board; new kindergartens were opened as rapidly as competent directors could be prepared to take charge of them, and when Dr. Harris resigned his position as superintendent in 1880 the St. Louis kindergartens had an enrollment of 7,828 children and the system was so firmly established that it has since that time proved itself impregnable to all attack.

The experiment in St. Louis was a crucial one and had it failed it would have been difficult to prevail upon other cities to introduce the kindergarten into their public schools. There were many ready arguments against such an innovation: the argument from expense; the argument based on the tender age of kindergarten children; the argument that kindergartens would spoil the children and fill the primary grade with intractable pupils; the argument that only rarely endowed and, therefore, rarely to be found persons could successfully conduct a kindergarten. These arguments would have acquired irresistible force when confirmed by an abortive experiment. Dr. Harris steered the kindergarten cause through stormy waters to a safe harbor. He proved that the kindergarten could be made an integral part of the public school system. He reduced the annual expense to less than five dollars for each child. He called attention to the fact that the years between four and six were critical ones and that the needs of the child at this period were not provided for either by the family or the school. He convinced himself that children who had attended kindergartens conducted by competent directors did better on entering school than those who had received no such training, and the weight of his authoritative statement gave other educators faith in the possibilities of the system. Finally, he proved that with wise training young women of average ability made satisfactory kindergartners. It was impossible to go on repeating that a thing could not be done in face of the fact that it had been done, and with the success of the experiment in St. Louis recognition of the kindergarten as the first stage of all public education became simply a matter of time.

The reasons which convinced Dr. Harris of the value of the kindergarten are stated in the following extract from his monograph entitled Early History of the Kindergarten in St. Louis, Mo.:

> "If the school is to prepare especially for the arts and trades it is the kindergarten which is to accomplish the object, for the training of the muscles, if it is to be a training for special skill in manipulation, must be begun in early youth. As age advances it becomes more difficult to acquire new phases of manual dexterity. Two weeks' practice of holding objects in his right hand will make the infant in his first year right handed for life. The muscles yet in a pulpy consistency are very easily set in any fixed direction. The child trained for one year in Froebel's gifts and occupations will acquire a skillful use of his hand and the habit of accurate measurement of the eye, which will be his possession for life.
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> * * * * * * * * * * *
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> "In the common school, drawing, which has obtained only a recent and precarious foothold in our course of study, is the only branch which is intended to cultivate skill in the hand and accuracy in the eye. The kindergarten, on the other hand, develops this by all its groups of gifts.
>
> "Not only is this training of great importance by reason of the fact that most children must depend largely upon manual skill for their future livelihood, but from a broader point of view, we must value skill as the great potence which is emancipating the human race from drudgery by the aid of machinery. Inventions will free man from thraldom to time and space.
>
> "By reason of the fact already adverted to, that a short training of certain muscles of the infant will be followed by

the continued growth of the same muscles through his after life, it is clear how it is that the two years of the child's life (his fifth and sixth), or even one year, or a half year in the kindergarten will start into development activities of muscle and brain which will secure deftness and delicacy of industrial power in all after life. The rationale of this is found in the fact that it is a pleasure to use muscles already inured to use; in fact a much-used muscle demands a daily exercise as much as the stomach demands food. But an unused muscle or the mere rudiment of a muscle that has never been used, gives pain on its first exercise. Its contraction is accompanied with laceration of tissue, and followed by lameness, or by distress on using it again. Hence it happens that the body shrinks from employing an unused muscle, but, on the contrary, demands the frequent exercise of muscles already trained to use. Hence in a thousand ways unconscious to ourselves, we manage to exercise daily whatever muscles we have already trained, and thus keep in practice physical aptitudes for skill in any direction.

* * * * * * * * * * *

"The kindergarten should be a sort of sub-primary education, and receive the pupil at the age of four or four and a half years and hold him until he completes his sixth year. By this means we gain the child for one or two years when he is good for nothing else but education, and not of much value even for the education of the school as it is and has been. The disciplines of reading and writing, geography and arithmetic, as taught in the ordinary primary school, are beyond the powers of the average child not yet entered upon his seventh year. And beyond the seventh year the time of the child is too valuable to use it for other than general disciplines,— reading, writing, arithmetic, etc., and drawing. He must not take up his school time with learning a handicraft.

"The kindergarten utilizes a period of the child's life for preparation for the arts and trades without robbing the school of a portion of its needed time.

"Besides the industrial phase of the subject which is pertinent here, we may take note of another one that bears indirectly on the side of productive activity, but has a much wider bearing. At the age of three years the child begins to emerge from the circumscribed life of the family, and to acquire an interest in the life of society and a proclivity to form relationship with it. This increases until the school period begins, at his seventh year. The fourth, fifth and sixth years are years of transition not well provided for either by family life or by social life in the United States. In families of great poverty the child forms evil associations in the street, and is initiated into crime. By the time he is ready to enter the school he is hardened in vicious habits, beyond the power of the school to eradicate. In families of wealth, the custom is to entrust the care of the child in this period of his life to some servant without pedagogical skill and generally without strength of will power. The child of wealthy parents usually inherits the superior directive power of the parents, who have by their energy acquired and preserved the wealth. Its manifestation in the child is not reasonable, considerate will power, but arbitrariness and self-will — with such a degree of stubbornness that it quite overcomes the much feebler native will of the servant who has charge of the children. It is difficult to tell which class (poor or rich,) the kindergarten benefits most. Society is benefited by the substitution of a rational training of the child's will during his transition period. If he is a child of poverty, he is saved by the good associations and the industrial and intellectual training that he gets. If he is a child of wealth, he is saved by the kindergarten from ruin through self-indulgence and the corruption ensuing on weak management in the family. The worst elements in the community are the corrupted and ruined men who were once youth of unusual directive power,— children of parents of strong will."

By reducing his argument in favor of the kindergarten to a brief statement which no one could dispute and whose force every one could appreciate, Dr. Harris greatly increased its weight, and immediately upon the publication of his report the movement in favor of public kindergartens showed an increased momentum. In the twenty-nine years which have elapsed since the successful experiment in St. Louis the kindergarten has been made part of the public school system in one hundred and eighty-nine cities. In 1897–98 the total number of public kindergartens was 1,365; the total number of teachers 2,532· the total number of pupils 95,867.

The cities which have the most fully developed systems of public kindergartens are Boston, Chicago, St. Louis, Philadelphia, New York, Brooklyn, Indianapolis, Rochester, Des Moines, Grand Rapids, Brookline, Newark, Jamestown and Los Angeles. Philadelphia, which reports 201 kindergartens, leads in numbers all the cities of the United States. St. Louis follows with 115 kindergartens, New York with 100, Boston with 67, and Chicago with 63. An estimate, based on the sale of kindergarten material, fixes the total number of kindergartens in New York at 600, so that, including private work and association work, this city has presumably a more extensive provision of kindergartens than any other in the United States.

Sixteen cities have a special supervisor of kindergartens.

The following states have the most extensive provision of kindergartens, public and private. The order of the names indicates the relative extent of the provision:

1 New York
2 Massachusetts
3 Michigan
4 Illinois
5 California
6 Connecticut
7 New Jersey
8 Wisconsin
9 Pennsylvania
10 Ohio
11 Indiana
12 Iowa
13 Colorado
14 Minnesota
15 Washington

In the year 1873 the National bureau of education began collecting statistics with regard to the total number of kindergartens in the United States. The results are necessarily imperfect, but they enable us to form an approximate idea of the growth of the system. Taking public and private work together, the advance of the kindergarten is shown in the following tables:

	1873	1882	1892	1898
Kindergartens	42	348	1 311	4 363
Teachers	73	814	2 535	8 937
Pupils	1 252	16 916	65 296	189 604

Since the aim of the kindergarten is not instruction, but development, its results cannot be tested by examinations or expressed in statistical tables, but must be gathered from the testimony of experts who have had time and opportunity to study its influence. In other words, kindergarten children must be judged by elementary teachers and principals of schools, and unless, upon entering the primary grade, they show superiority to children coming direct from the home, the kindergarten cannot be said to have justified its adoption into our national system of education. Conversely, if the mental and moral superiority of kindergarten children prove to have converted primary teachers and school principals from enemies into warm friends of the Froebelian method, this fact should be accepted as convincing evidence of the merit of the work.

Before presenting the testimony which I have collected, it is necessary to call attention to the fact that, in the kindergarten, talking is not forbidden, but, on the contrary, children are encouraged to share with the kindergartner and with each other all their happy experience of effort and success. It is, therefore, natural that pupils promoted from the kindergarten should not at first understand the law of silence imposed by the character of the work in the elementary grades, and hence that, without any bad motive on their own part, they should prove troublesome pupils during the first weeks of school life. The failure to understand this fact has caused some unjust criticism of kindergarten children. It will, however, be apparent to all who read carefully the testimony now to be submitted that the adjustment of the kindergarten child to the school environment is a problem which is rapidly progressing towards a happy solution.

The more complete the testimony offered, the more certainly should we expect to find some differences of opinion as to the characteristics of kindergarten children. In any large city there will probably be a few incompetent kindergartners and some unintelligent or reactionary primary teachers. That the kindergarten fails to commend itself to teachers who are themselves mere martinets should be accounted a merit rather than a defect. The condemnation of incompetent kindergartners by wise primary teachers is a cause of rejoicing to all true friends of the Froebelian method. The influence of the kindergarten should be determined by the majority report. Variations of opinion should be explained by the occasional defect of the kindergartens and the occasional incapacity or prejudice of the judge.

The most extensive and carefully collected information which I have received with regard to the characteristics of kindergarten children came from Miss Laura Fisher, director of the sixty-nine public kindergartens of Boston, and consisted of 163 letters from teachers of the first grade sent in reply to the following circular communication from Mr. Edwin P. Seaver, superintendent of the Boston schools:

" *To the principals of districts :*

" For the Paris Exposition of 1900 Miss Susan E. Blow has been appointed to prepare a monograph of the kindergarten in the United States. She desires to use the information which you can gather by asking teachers of your first grade primary to answer carefully the questions hereto appended. Please give a copy of these questions to each first grade teacher, asking her to prepare her answers and give them to you as soon as possible. Ask her to be perfectly frank in her expression of opinion even if she must make some unfavorable criticisms.

" In returning the answers to me after you have collected them, you will confer a great favor if you yourself will write your impressions of the kindergarten system of instruction.

" QUESTIONS

" 1. How many years have you taught children in the first grade?

" 2. About what proportion (per cent) of your children have come to you from the kindergarten?

" 3. What, if anything, have you observed as to the characteristics of kindergarten children as compared with other children?

"4. How do you think the kindergarten training has affected the progress of the children in the primary grade, particularly in your own grade? Has their progress been quicker in point of time? Has the character of the work done been improved?"

From the 163 letters received in reply to this circular I eliminated those reporting that less than ten per cent of the children attending the given primary room had received kindergarten training. I also omitted several letters based upon experience with children who had been only a few weeks or months in the kindergarten. The total number of letters omitted was 36. Of the remaining 127 letters 102 are favorable and 25 unfavorable to the kindergarten. Among the letters which I have classed as unfavorable one only is unqualified in its disapprobation. All the others admit some distinctive merits in kindergarten children, those most frequently specified being increased power of observation and linguistic expression, greater manual skill, and more general information. The most frequent criticisms are that kindergarten children are talkative and not easily amenable to school discipline. I quote two letters which represent the general trend of unfavorable criticism:

I

"I have taught the lowest grade one year, two months.

"About fifty per cent of my children came from the kindergarten.

"I find the kindergarten children are less inclined to obey quickly. They have acquired the habit of whispering over their work which has seriously hurt my other children. I find they understand in some cases more quickly than the other children and are more deft with their fingers.

"My kindergarten children are evenly scattered over my class. Owing to limited experience I think I am hardly competent to make a trustworthy estimate of the work of kindergarten children as compared with others. The children who came from home were nearly seven years of age, and as the children who came from the kindergarten were in most cases younger, there has been but little difference in the results of their work."

II

"I have taught children in the first grade something over two years in all. About one-fifth of this present class has attended a kindergarten, but has not come direct to me from there.

"I have noticed that they observe much more closely than ordinary children, that they are skillful with their hands in any kind of work that calls for skill, as drawing, clay work, science, etc. That in the arrangement of material, such as busy work, they are more orderly and careful in arrangement. I have found by looking the matter up that the children who have passed through kindergarten now present in my room are among the worst behaved and troublesome in the whole room. I also notice a habit to watch each other's work too much.

"I cannot say that I have found them any more able to take the work than ordinary children. I do not know that their minds are any more fitted for the retention of new ideas. I think, in some cases, the work is better done by these children than it would be without such training. But I do not know that some of the others would have done any better work with the kindergarten training. For some children I think it a great help, for others I might say unnecessary."

Contrasting the 102 favorable with the 25 unfavorable letters, the first fact which thrusts itself upon the notice of the reader is that the majority of their writers seem to have had little difficulty in solving the problem of discipline. A large proportion of these letters make no direct reference to this question, while the account given of the moral characteristics of kindergarten children precludes the thought that they have been found difficult to control. Most of the varying shades of opinion expressed by the remaining writers are indicated in the following extracts, and in the letters quoted in full at the conclusion of my summary of the Boston testimony in behalf of the kindergarten :

DISCIPLINE

"During the first weeks of the school term the children from the kindergarten are very lively, in fact more so than is best for the good order of the school room. This is due to the great amount of freedom which the children are allowed in the kindergarten. This fault, if it may be considered as such, must be corrected. When the child realizes that he is in a new atmosphere and that he must attend to one person he very soon adapts himself to the change."

2

"The kindergarten has done so much that is of great value to the children, that I am willing to overlook the only little difficulty that I have found. During the first few weeks of school the children like to go about and show their little friends what they have succeeded in doing or finding out and whisper or talk about it. But they soon learn that we can all work better when each one takes care of his own work and the inclination to move and talk gradually diminishes."

3

"The children I received from the kindergarten were more restless at first. They were easier to discipline after a short time."

4

"Kindergarten children are alert and active, with eager questioning minds and eyes that see and note everything. They know how to use their hands and how to talk and are lovable and sympathetic. They come to the primary room happy, self-confident and talkative. On the other hand, the discipline of such children is very hard and it requires the greatest effort on the teacher's part to accustom them to the quiet, independent work of the primary room."

5

"Entering school from the kindergarten the children have already learned their social relations and their obligations to their companions. Hence from the first there is an absence of shyness and fear, and a school made up of kindergarten children is a delightfully social community. This trait, if firmly and tactfully dealt with, leads not to disorder but to right school spirit. I have not found it more difficult to tone down this trait than to arouse it as it lies dormant in other children."

6

"Each year the kindergarten children come to school better prepared than the year before. I have noted this particularly in regard to discipline. They are each year more ready to settle down to quiet work. They seem each year to be more evenly developed."

7

"The discipline in my class during the time I had kindergarten children was as good, if not better, than it was when I had children come to me from their homes. In point of fact, I much prefer the kindergarten children."

8

"The moral side of the child's nature receives special care in the kindergarten. The careful, firm discipline of the kindergarten has a great effect upon the receptive minds and hearts of the children. Many of the mothers are glad to testify to this influence. The rough child grows more gentle, the thoughtless child more careful."

9

"The most important characteristic of my kindergarten children was their high moral tone. There was among them more than the usual spirit of kindness, good will and helpfulness. They were more easily controlled than other children by an appeal to reason or honor. For little children, they had a very quick perception of right and wrong."

10

"Kindergarten children give so much better attention, follow directions so much more readily and apply themselves so much more diligently that they progress much more rapidly than other children. Their work is always well done and they do all the work given them, particularly what is known as busy work. A great deal of time is saved in this way and the discipline of the school is made much easier."

Replying to the questions with regard to the relative progress of kindergarten children and the character of their work thirty-eight teachers report both a progress quicker in point of time and improvement in the quality of work. Thirteen teachers report increased rapidity without change in the character of work, and twenty-eight improvement in the character of work without increased rapidity of progress. Thus fifty-one report greater rapidity, sixty-six improvement in quality of work, and seventy-nine a decided gain either in speed or quality or in both. The remaining twenty-three teachers seem to consider that kindergarten training increases the child's general intelligence but does not noticeably affect the ordinary routine of school work.

In the *Kindergarten Magazine* for March of the current year Miss Sarah Louise Arnold, superintendent of primary schools, Boston, pronounces a judgment which confirms the majority report of the teachers whose testimony I have summarized. Her statement is as follows: "As a matter of fact the children who have had the full kindergarten training advance much more rapidly than do the children who come to the primary room without such training. In certain schools the kindergarten children have been separated from the other children entering the first grade, and have been taught by teachers who understood the work of the kindergarten. In almost every instance these classes have completed the primary course in two years instead of three."

To the disciple of Froebel the most interesting paragraphs of the Boston letters are those which answer the question, "What, if anything, have you observed as to the characteristics of kindergarten children as compared with other children?" In condensing these replies I have grouped them under three heads, first, specific gain in knowledge and skill, second, intellectual, and, third, moral characteristics. The specific gains mentioned are clearer ideas of number, form and color; greater knowledge of and interest in nature, improved singing, better expression in reading, improved articulation, more orderly and careful arrangement of material in busy work, and greater manual skill shown especially in writing and drawing. The intellectual characteristics of kindergarten children as compared with others are said to be greater general activity of mind, quicker comprehension, a more receptive mental attitude, greater logical power, greater concentration, more imagination, greatly increased powers of observation and expression, quicker recognition of likenesses, differences and relations, greater love for the beautiful and visibly increased originality and creative power. Of their moral characteristics it is said that as compared with others kindergarten children are neater, cleaner, more orderly, more industrious and more persevering. They are also more self-reliant, more painstaking and more self-helpful. They are less self-conscious and more polite. They obey more quickly and are more gentle towards each other. They have a more developed spirit of helpfulness. They are more eager, alert, enthusiastic and responsive. They are interested in a wider range of subjects. They have finer sensibilities, manifest love for and confidence in their teachers and show special interest in everything pertaining to home and family life.

In thus condensing the evidence of many different writers I necessarily rob it of force and color. It seems well, therefore, to present a limited number of replies in full in order that readers may judge for themselves of the impression created by kindergarten children upon teachers of different character, age and experience.

I

"I have taught children in the first grade about six years. About 35 per cent have come to me from the kindergarten.

"These children show certain characteristics which are not so fully developed in the other children. Their intellectual qualities are, as a rule, more fully developed, especially perception, imagination, memory and power of thought. Their sensibilities, too, as a general thing, are much quicker to act. For example, if a flower is given to each member of the class, it is the little boy or girl who has attended the kindergarten who is the first to feel its beauty. Power of expression is well developed in these children. What stands out more than anything else in these small kindergarten people is the cheerful, sunny atmosphere they bring to the primary room and the spirit of kindness and helpfulness. In other words, they have begun to come into that stage where love for all humanity is developed in a simple childlike way. It seems to me that this is the most important characteristic of the child from the kindergarten.

"I think the progress of these children in the primary school is greatly facilitated by their previous training. Their progress has been quicker as to time. The character of the work done has been improved."

II

"I have taught children in the first grade two years.

"The first year 72 per cent had attended kindergarten; the second year 74 per cent.

"The kindergarten child observes more quickly and with greater accuracy. He is methodical in thought, and, consequently, in all expression, oral, written and manual. From an ethical standpoint he is superior to the non-kindergarten child. In all ways he is more intelligent, more nearly the being his Creator meant him to be.

"The kindergarten training has been a powerful agent in stimulating the ambition of the child and in making progress a continual joy.

"In the majority of cases the progress of the kindergarten children has been quicker in point of time. In all cases the character of the work has been improved."

III

"I have taught a little over two years in the first grade.

"Last year all my children had attended the kindergarten; this year only 5 per cent.

"I have found that where the children have had a kindergarten training they are much more industrious, interested, observant, enthusiastic, imaginative, responsive and courteous. They have more general information. The training they have received is a great help in number, language, expression in reading, drawing and all manual work.

"The progress has been quicker in point of time, and the work on an average much neater."

IV

"I have taught children in the first grade for five years.

"Until November of the present school year about 80 per cent of my children have come to me from the kindergarten. Very few children have come directly to me from their homes. Those who have not come from the kindergarten have usually spent more or less time in the first grade before they have come to me.

"The majority of the kindergarten children have been more anxious to work. They have had more confidence in their ability to do what is required of them, and have shown more perseverance in conquering difficulties. Their work has been cleaner, neater and arranged in a more orderly manner. Their power of concentration is much stronger. Their creative power is also much more highly developed. Through their games and talks, they have acquired more knowledge of the world about them, which knowledge has been of much help to them in their new work, especially in reading, language and drawing. They have learned to write more readily, and they have clearer ideas of number. Their love of the beautiful and their power of appreciating beautiful thoughts have been much greater.

"As a rule, the child who has had a full kindergarten training has done much better, stronger work in the first grade than one who has been in the kindergarten but a short time, or than one whose attendance has been very irregular.

"Progress has been quicker in point of time, for the children who have had the benefit of the full kindergarten training have accomplished more in a given time than those of the same age who have not received the same training. The character of the work has been improved."

V

"I have taught children in the first grade thirty-two years.

"Since the kindergarten was established in our district, about four years ago, about fifty per cent of my pupils have come to me from that grade. Before that time, I received only a few children from the kindergarten.

"The characteristics of kindergarten children consist of trained powers of observation, skill in using the hands, a knowledge of number, form, color and music. A great deal has been done for some children in teaching them self-control.

"I think the effect of the kindergarten training has been decidedly favorable to the progress of the children in my own grade.

"Their progress in point of time has not been much quicker, as I have had very few who have had more than one year of kindergarten training, and several of the bright ones have been delicate children who could only attend half a day or quite irregularly.

"I have a class of children whose parents are not anxious to have them pushed.

"The character of the work done has been much improved."

VI

"I have taught four years, one in the Hancock district and three in the W. Allston.

"The first year fifty per cent of my children were from the kindergarten; the second, third and fourth years about fifteen per cent.

"Kindergarten children are creative, self-active and independent. They are accustomed to school life and used to being one of many instead of one alone.

"They have been waked up and are used to thinking. They are ready to begin to learn, whereas other children, with the exception of those who have brilliant minds, have to become accustomed to school work. Kindergarten children have learned how to work, how to use their hands, how to care for property.

"They have a good foundation for any kind of work.

"For the above reasons they are able to do the work of my grade in half the prescribed time. They always get more out of their work than other children and are always at the head of the class."

VII

"I have taught six years in the first grade. About 30 per cent of my children have come to me from the kindergarten.

"I have observed that kindergarten children are interested and ready at once for the work. The other children do not know how to act. Much time is taken up in teaching them minor details. They are not so quick with their fingers.

"The kindergarten children know how to handle their pencils and learn to write in a very short time.

"In every case the kindergarten children have shown marked progress in the primary grades.

"Toward the latter part of the school year they have done second grade work. I have been interested in following their course through the grammar school, and have found that they received double promotion."

VIII

"I have taught children in the first grade fifteen years.

"Last year about fifty per cent, this year about sixty per cent, and in preceding years perhaps thirty or forty per cent, of my children came to me from the kindergarten.

"I find the children who have had two years of kindergarten training ready to do the work of the first grade, whereas other children need a great deal of preliminary work. The muscles of the hands of these children have been so trained that they are ready to use pen or pencil for writing and drawing, ready to cut and fold paper, ready to handle material for seat work. This training of the hands has had its corresponding development in the brain, and their minds are ready to intelligently guide the hands and to grasp new ideas. Their eyes have been so trained that they are ready for the color, form and observation work. This training of the eye affects also the work in reading very noticeably, as the children distinguish the forms of words and letters more easily. Their ears have been so trained that they are ready to listen and follow directions. Their number experiences have been many and varied, and it is in arithmetic especially that I notice their advantage over other children.

"In fact the normal child who has had a thorough kindergarten training does rapidly, and with ease, understanding, joy and appreciation what the normal child without this training does slowly and with difficulty.

"The kindergarten training has helped many of my children to do the work of the primary grade in less time than other children, but I think the great gain has been in the character of the work. It has been in quality rather than in quantity: in enrichment and expansion rather than in extent."

IX

"I have taught children in the first grade eight years.

"I have always had some kindergarten children in my class with the exception of this year. Last year my class was made up wholly of the kindergarten children. The kindergarten children are wide-awake. I never had such an enthusiastic spirit in my class as I did the year it was made up wholly of kindergarten children. The children who come directly from home are, as a rule, diffident, and not responsive. It usually takes two weeks to get acquainted, to find some common bonds of interest. The kindergarten children I had watched in the kindergarten. I knew the stories and pictures they loved; the work they had done in form and color, and the games they had played. We were friends at once, and the work began earlier and with less friction. The children from home stand in awe of the teacher; the others have grown to love school and its work. The spirit of helpfulness is very strong. The first two weeks of school I was troubled with the discipline. The children talked aloud and hummed, but they worked. The humming did mean a happy spirit, but of course it did hinder the work. The talking without permission I found was almost always prompted by good motives. At the end of three weeks these children succeeded very well in these directions. They are good workers and they must have enough to do. Folding hands and sitting up straight does not appeal to them.

"The training given the children in the kindergarten enables them to take up work more intelligently. They are wide-awake in observation lessons. They are quick in recognition of form and color, and in seeing resemblances. They are intensely interested in stories and poems. I never had a class who read with so much expression. I think the work done in the kindergarten songs sweetened their voices. Of course I do not think the kindergarten training makes a dull boy bright, but I do think that a dull child is brighter and more responsive than if he had not had this training.

"In point of time, if by that is meant double promotions, the children have not gone on any faster. But I do think the children were better developed and more ready to take up the second grade work than the children entering the first grade from home.

"I think the kindergarten children do better and neater work. They are more self-reliant. They have more creative power and are always ready with new combinations in design work."

X

"I have taught the lowest grade in the primary school for four years. My first class contained no kindergarten children; my second, third and fourth contained 33 1-3, 100 and 70 per cent respectively, making an average of 51 per cent.

"I have found the kindergarten children to have broader, more original and better trained minds than most of the other children. They are better able to concentrate their attention; they grasp an idea more readily and go ahead by themselves. They distinguish form more quickly, and so learn to write and read in a shorter time than the others. They have already formed habits of cleanliness and punctuality which, with other children of the lower classes, we have to struggle some months to establish.

"I think the kindergarten training has advanced the progress of the children in the primary school both in point of time and in the character of the work. If a child has had two years' training in a kindergarten and then enters my room at the age of five and a half or six he can generally finish the first grade work by March first and enter the third grade in September, and, as I have stated in the previous paragraph, the work is better and more intelligently done and shows much originality."

XI

"It is a great pleasure to me to have the opportunity offered by the questions sent us relative to kindergarten work in preparation for the Paris Exposition to say that I think the kindergarten training is of vital importance to the children of foreign and ignorant parentage such as we have in our district. From general judgment I say that all children need the kindergarten, but I know that it is of the first importance to those who come from oppressed, lawless and unlovely homes. I hope the fact that I have taught only two years in this grade will not render my testimony worthless.

"Last year about 5 per cent of my children had had some, but not a complete kindergarten training. This year, for one month, about 95 per cent of my children were from the kindergarten. At the end of that time the best 45 per cent moved on, the rest remaining with me. None of those left with me had completed the kindergarten course before entering the primary grade. That one month's experience with nearly a whole class of kindergarten children was delightful.

"To my mind the comparative characteristics of the kindergarten child and the street child are these:

"The kindergarten child observes and discriminates; is intelligent in his attitude towards things; is able to remember things taught; is ingenious, spontaneous, interested and imaginative; has a sense of honor and respects the property and rights of others; is gentle, kind, helpful and thoughtful; possesses a sense of the beautiful, and a sense of individual moral responsibility; is cognizant of the Supreme Being and reverential.

"The street child is unobservant, dull in attitude, weak in imagination, indifferent to things. He is rough, shameless, thoughtless, teasing, disregards the rights and property of others, is little moved by the beautiful, is ignorant in general, and, therefore, lacking in love and reverence. He has no sense of individual responsibility and is morally chaotic.

"The kindergarten child has further learned to direct himself along a specific line of action whether it be work or control, in obedience to a spoken or unspoken law. He is, in short, intelligent, sensitive, responsive and self-directing in a far greater degree than the other child. With regard to rapidity of progress, I can answer only in regard to the work in my own grade. The kindergarten child, as I have observed him, moves much more rapidly over the ground of work than another child of equal ability.

"The character of the work done by kindergarten children shows a great improvement over that done by other children. Their manual training helps them to learn writing and seat work more quickly. The information they have acquired in the kindergarten and the dexterity they have gained enable them to progress rapidly, while at the same time their work is better done. They bring to their work a respect for it which increases their sense both of its dignity and of their own dignity.

"Of great importance in such a district as ours is the training in understanding good English which the kindergarten gives the child. Our children who come directly from the homes are a long time learning to understand us when we speak plain but good English. They are also a long time learning to express themselves. In the expression of what has been impressed upon them, kindergarten children are greatly in advance.

"The whole mental and moral character of the children who have attended the kindergarten is much superior to that of the children who come to us directly from the home.

"I have one suggestion, not a criticism, to make. A very few children, who have strong imagination and who prefer to use their imagination rather than their perception, are likely to have that tendency increased by the training in imagination given in the kindergarten, so that they have difficulty in seeing things as they really are. For example, such children repeatedly read one word of a sentence and then recite a sentence totally unlike what is before them. I think that kindergarten teachers do not realize this as we do, and that in the care of such children they ought, perhaps, to lay more stress upon truth-telling. This is the only possible fault I have seen in a child as a kindergarten child, and this only in a very few children.

"I wish that all children under six years of age in our district were compelled to go to the kindergarten before entering the primary room."

XII

"It is my pleasure, as it is also my duty, to submit the following answers to the questions issued in the recent circular with regard to the effects of kindergarten training upon the pupils of my own grade, the first primary.

"Five years has been the length of my service in the first grade.

"About forty per cent of my pupils have received instruction in the kindergarten. The children who have had kindergarten training seem to possess greater enthusiasm for and interest in their school work, and, therefore, concentrate their attention sooner and for a longer period than those from home.

"My pupils from the kindergarten have greater and more accurate powers of observation and discrimination. This fact is noticeable in their quick recognition of written forms and their associated sounds.

"The vocabulary of the kindergarten child is larger, and his power of expression, therefore, greater. He is less shy and timid and so expresses himself readily and freely. He is able from this fact to take up the regular language work in reading sooner, and so time is saved. The willingness to narrate his experiences is so marked that I have to be careful that the others have equal opportunities to express themselves. This is true particularly at the beginning of the school year.

"The experience gained in the kindergarten helps the child to understand the literature presented to him more readily and thoroughly.

"Generally the kindergarten child recognizes numbers and performs operations with them more quickly than other children, helped by his former work in weaving and other kindergarten occupations. These latter also help him to be more skillful with his hands. He can be left at his busy work with less oversight and with better results to be seen on inspection. This is a saving of time. The manual training which he has received also results in a greater power of expression in the drawing and writing lessons. The terms used in drawing are also more familiar, being recalled instead of newly learnt. Consequently less drill is needed.

"The kindergarten child is more familiar with school routine, and, therefore, requires fewer directions. Having attended school before, the primary teacher is not obliged to spend time and energy in comforting him on his separation from home friends.

"Finally, the kindergarten child seems to me more courteous, more helpful and more ready to recognize the rights of his fellow-pupils.

"The kindergarten pupils now in my own grade have been able to accomplish more in the required studies than those of the same age who came directly from home. The few exceptions occur in the cases of children who are not to be regarded as normal.

"Several children who have received the full kindergarten course have been able to omit the second year course in the primary, and have, therefore, completed that course in two years instead of the usual three years. This does not occur with other children unless they are unusually old when they enter or have special home training. One child, who proved too immature for the work of my grade, after a short training in the kindergarten, was able to do the work better and more quickly than he could possibly have done without it.

"That the character of the work has been improved, I have no doubt. Since I have always been so fortunate as to have some pupils from the kindergarten, I cannot compare the work accomplished with that of pupils, all of whom came direct from home. The comparison I have made between the latter and kindergarten children seems to be just, and I feel sure the kindergarten has helped to produce better results throughout my class, even when a very small proportion of the children in the class had had the benefit of its training."

The following letter, also received from Boston, and written by a teacher of third grade, shows that the influence of kindergarten training extends beyond the primary room:

"In speaking of the value of kindergarten training I judge from observation and inference rather than from a close grade connection with it.

"I have more than once met with such contrasts in the moral attitude and mental atmosphere of younger children who had been under kindergarten training, and older ones from the same family who began school life before kindergartens were established, that I can attribute the source of the happy and healthful influence to but one cause. Indeed, it was unmistakably evident in several instances that the leaven had worked where it would happily do so much good in the future in raising the minds of the parents to a finer conception of the duties and possibilities in training their children. This has come to me more than once from a personal confession and acknowledgment. An influence that makes thus early for the formation of character surely cannot have too high an estimate, especially from those whose efforts must succeed it in the work.

"I feel that to the kindergarten training is due much of the possibility of developing in the children the power to observe, to generalize, to execute and to express themselves as intelligently and thoughtfully as they were able to do a year or two later in school life, before kindergartens were with us. In my present class the kindergarten children are all to be promoted with one exception, and they are ten months younger than the other children. Their average age is eight years and ten months, while that of the non-kindergarten children is nine years and eight months, or practically a year of school life. I find the difference is about the same in favor of kindergarten children for several years back, as far as I examined. There seems to be but one influence as to the cause for this, the quickening and brightening influence of the first training, coming at a time when the children are awakening fast to the multitude of influences and interests which surround them, and which is of a character to lead the little hearts and hands to the best they can think and do."

The limits prescribed for this monograph prevent me from doing full justice to the valuable material sent me from Boston. So far as I am aware, no equal number of competent witnesses reporting upon children received from so large a number of kindergartens have ever been publicly cited in behalf of the Froebelian method. Their testimony proves beyond peradventure that the kindergartens of Boston have actually achieved nearly all the results claimed for the system by its most enthusiastic friends. The following letter from Mr. Edwin P. Seaver, superintendent of the Boston public schools, describes the obstacles with which the kindergarten has still to contend and suggests a plan by which its influence may be increased:

"My acquaintance with kindergartens began in the year 1881, when, in making my first official visits in the Boston schools, I found the kindergartens then privately supported by Mrs. Shaw in certain school rooms granted rent free for that purpose by the school committee. At first I was amused by the novel exercises, and then pleased by the evident hold these exercises, or the teachers, or both, had upon the children. Longer and closer study of the kindergarten exercises convinced me that here was a real educational agency of singular efficiency.

"Looking at it from the practical side I observed that there were some thousands of children in Boston whose education both morally and intellectually would be greatly advanced by their being placed at an early age in good kindergartens. I thought too that for all children the kindergarten was the best means of passage from the home to the primary school. A knowledge of the spirit and methods of the kindergarten spread among the primary teachers seemed likely to exercise a beneficial influence on the primary schools. There was no doubt that this same benign influence had made itself felt in many homes. Among the strongest early friends of the kindergarten were many parents whose children had been kindergarten pupils. There were many primary teachers whose experience with kindergarten children enabled them to analyze and describe the effects of the kindergarten system of instruction in favorable terms.

"These were some of the considerations which moved me in the year 1888 to recommend that the kindergarten be made an integral part of the system of public instruction in the city of Boston. Since this was done, the public kindergartens have steadily grown in number and in popularity, in so much that nearly all school districts in the city are supplied with them, and about one-third of the children now pass through them before entering the primary schools. Our primary teachers have become more and more appreciative of the excellent foundation the kindergarten gives for the child's subsequent instruction. Altogether, it may truly be said that the public kindergartens of Boston have fulfilled, and more than fulfilled, the expectations formed of them at the time of their adoption. Imperfections they have shown, as what schools or what things human do not? But every year there have been improvements, every year a better understanding of the essential principles of kindergarten instruction, and every year a more widespread knowledge of the practical benefit of these principles when properly applied.

"As to the subsequent progress of kindergarten children in the school grades, it has been impossible for me to arrange and properly carry out a thorough statistical inquiry. I can only say in general that my impressions, gathered from conversations with teachers these many years, lead me to the conclusion that the progress of kindergarten children compares very favorably with that of other children of the same age and similar environment. This progress is not so much manifested by quicker passage from grade to grade in the schools — for there is much that is arbitrary and artificial in the rules governing the promotion of pupils through the grades — as it is in the broader and stronger work done by children whose education has been started aright in the kindergarten.

"Another influence which obscures the result in statistical inquiry arises from the fact that the tests applied to determine progress are often quite out of harmony with that theory of education of which the kindergarten is an exemplification. The principles worked out by Froebel in the kindergarten were also by him applied to the later education of children and youth. Therefore, the subsequent progress of kindergarten children ought to be tested by methods which are consistent with those principles.

"Still another obstacle in the way of satisfactory statistical work is the fact that in very many of the classes of the first primary grade only a minority of the children are from kindergartens. The teacher is apt to adapt her methods to the wants of the majority. So it happens that the kindergarten children suffer from a change in the method of their instruction. What was so well begun in the kindergarten is broken off, and, consequently, the results that might otherwise have been expected never appear. Notwithstanding all these difficulties it has been possible in Boston to organize a few primary classes, composed wholly, or almost wholly, of kindergarten children. The progress made by such classes has been eminently satisfactory. This result seems to warrant the belief that if all children could be taken through the kindergarten before entering the primary schools the instruction in the latter would be advanced and enlarged to a degree not now possible."

Much of the information received from other cities I omit because it does not relate to experiences with a sufficiently large number of children. I have, however, condensed the following results from letters sent me by Miss Mary C. McCulloch, supervisor of the St. Louis kindergartens. These letters, thirteen in number, were written by teachers of the first grade, and reported the progress of kindergarten children in each of the several districts of the city. Two of the letters I eliminated because, while kindly in feeling, they were not precise in statement. Of the remaining eleven letters nine reported that kindergarten children were proficient in arithmetic, and affirmed the conviction that the training of the kindergarten facilitated progress in learning to write, and was of marked value in learning to read. The other two recognized no difference in these respects between kindergarten children and children who came to school direct from the home. The unanimous verdict was that kindergarten children were superior to others in drawing. All the letters concurred likewise in the statement that kindergarten culture developed the æsthetic sense. The intellectual characteristics specified were accurate observations; correct expression; power to make numerical combinations; familiarity with geometric forms; quick recognition of magnitude and relation; a generally increased perceptive power, and signal ability in illustrating poems and stories. With regard to manners and morals nine teachers recognized the good influence of the kindergarten. Of the remaining two one found "few causes for complaint," and the other referred merely to a possible good effect upon order and punctuality. The moral characteristics which were said to distinguish kindergarten children were order, cleanliness, courtesy, consideration, kindness, a perceptible development of the ideal of social dependence and "a love for the beautiful in character awakened by fairy tales and developed along the lines of self-abnegation through song, stories, games and daily practice."

From Mrs. Alice H. Putnam, to whose labors is largely due the adoption of the kindergarten by the school board of Chicago, I have received the following valuable testimony of superintendents and principals of schools:

From Dr. E. Benj. Andrews, superintendent of schools:

"Our best first grade pupils are from the kindergarten, and the influence of kindergarten teaching is more and more felt in all the grades. Its ethical and social value is equal to its intellectual value. In fact the kindergarten is now recognized by all thoughtful persons as one of society's main hopes for the future."

From Albert G. Lane, Esq., district superintendent:

"It has been noticeable that children well trained in the kindergarten have keen sense-perception, possess constructive and expressive power and are alert, active and open-minded."

From James Hannan, Esq., assistant superintendent:

"The most positive friends of the kindergarten are those who know it best. No principal who has had one in his school is willing to do without it. We have had several cases where the principal of an old school has been transferred to a new one and in every such case there has been urgent demand for the establishment of a kindergarten in the new school."

From Mr. Lincoln P. Goodhue of the D. S. Wentworth school:

"The kindergarten-trained child is more responsive in early primary work, has greater freedom of thought and expression, better and more definite control of motor activities and many well-established useful habits not usually found in the ordinary beginner.

"During the first year many of the kindergarten children take first rank in their rooms, although some fall into the lower classes, even into the C class. It is seldom, however, that a kindergarten child is found overtime in grade. In the second year and above opportunity for the observation of the kindergarten child in this school has been quite limited, and I am unable to submit any definite statement.

"That the average child is helped very materially by the kindergarten course must be admitted. That the children of the poor are led into habits of thought and conduct which their home environment could never develop is also true.

"The dull child, while he may still be dull, must be quickened more or less by kindergarten training well done. The whole question as to the value of the kindergarten can be answered only when the other question as to the training and qualifications of the kindergarten teachers has been positively settled. It is more true in the kindergarten perhaps than in the grades that the teacher makes the school."

From Miss Minnie R. Cowan, principal of the McAllister school:

"In the following respects we find the pupils who have had kindergarten training very superior to children who come directly from the home,—power of observing closely and accurately and ability to express their thoughts readily and clearly.

"They have also a considerable degree of manual skill, and in the first year of school life especially this is a great aid to their progress.

"I have not found that they ordinarily gain any time in the grades, but they do the work of the grades more easily and perfectly."

From Mrs. Elizabeth Huntington Sutherland, principal of the Alice E. Barnard school:

"Having been seventeen years in this school, I have had many large families begin and complete their work with me.

"The older three or four children of said families were in school before our kindergarten was established; the younger three or four since. Invariably there is a marked contrast in the ability of the two groups. The younger ones are brighter in every way, and often seem hardly to belong to the same stock. Much of this difference I believe to be due to the early wholesome awakening brought about by the training in the kindergarten."

From Mr. Fulton B. Ormsby, principal of the Perkins Bass school:

"My observations thus far convince me that the kindergarten is a distinct and positive help to the future progress of the child.

"The motor activities are so developed that the various occupations of the school room are taken up with skill and readiness, and the powers of observation so aroused that the more formal instruction, if desired, may be undertaken at once with success.

"In our school, the children who have had the kindergarten training are advancing more satisfactorily than those who lack such training."

From Mr. Samuel A. Harrison, principal of the Burroughs school:

"The observations of myself and teachers are that pupils coming from the kindergarten:

"1. Know better how to handle themselves. They have been trained to control their attention, and can begin school work at once.

"2. They have gained some little learning in singing and numbers.

"3. They are cleaner, neater and better mannered, and their training shows to advantage in all school proprieties."

From Mr. Frank A. Houghton, principal of the Kershaw school:

"The kindergarten has a most excellent influence on the primary grades. I feel its influence on the work of the first grade especially."

Miss Ida De La Mater, extra teacher, who supervises the primary work of the Kershaw school, adds:

"I have found that the kindergarten children lack concentration, self-control, and are hard to discipline.

"In the games, story work, language and general information, they are better than other children. I am in hearty sympathy with the work."

From Mr. Charles F. Babcock, principal of the Holden school:

"The children who have been in the kindergarten classes are noted for their powers of observation and expression, fluency in language, etc. They are vastly superior to those who have not had this training. The only objection to them is that they develop into regular chatterboxes, and it takes some time to tone them down. We have the kindergarten and non-kindergarten classes together and can speak of them better for so doing."

From Mr. Daniel Appleton White, principal of the Everett school:

"I have carefully revised the records of this school in regard to the progress of kindergarten children. By comparing the progress of several hundreds of children who are at present members of this school, I obtain the following statistics:

"Of one hundred promotions from first to second grade, I find that the children who have had the kindergarten work required an average time of thirty-seven and one-half weeks for the completion of the grade work, while the others required forty-four and one-third weeks for the same. For the second grade the respective results are forty-five and one-tenth weeks and forty-four and eight-tenths weeks. For the third grade forty-three and seven-tenths weeks and forty-six weeks, while for the fourth grade the average time required was thirty-three weeks and forty-four and four-tenths weeks.

"In addition to these facts I cheerfully submit my opinion of the advantages of the kindergarten training so far as I have observed them. In my judgment * * * the children gain exceedingly in regard to the following points:

"The formation of good habits, the development of freedom and activity, the power to understand directions, the social element, and last, but not the least, the attention paid to cleanliness."

Since the kindergarten system has been more highly developed in Boston, Chicago and St. Louis than in other places, testimony from these cities has seemed to me of the highest importance. Similar results are, however, showing themselves in many smaller cities and towns, in witness whereof I permit myself to quote the following published statements·

I

"Having often been asked if there is any difference in the ages of those children in the several grades who have had kindergarten training and those who have not been so fortunate, I have this year taken some pains to see if there is really any difference. I find that the age of the kindergarten trained children in every grade is actually less than that of the remainder of the class by a few months until the eighth grade is reached, where the difference is ten months, or one whole school year. At first this does not seem very much, but a year at school is a great factor in the life of any student." (Olive McHenry, principal of Hawthorne school, Des Moines, Iowa. Published in report of city superintendent of schools for 1893–94.)

II

"Referring to our kindergartens and schools as we see them in New England, what is the opinion of the most intelligent primary teachers to-day concerning what the kindergarten does? Being very familiar with this matter in a town where eleven kindergartens, having some nineteen teachers, are feeding the primary schools, it is a pleasure to say that there is unanimous agreement on the part of all the primary teachers that the children receive incalculable benefit through their kindergarten training, and are far better prepared to take up the activities of the school because of that training.

"Many of these teachers are well advanced in life, and had long experience before the kindergarten was adopted in the town. They have not been hasty in making up their minds; on the other hand, they have no doubt been slow in doing so. They find the kindergarten children coming to them full of anticipation of what they are to enjoy, and they are slow to adopt any measure that tends to dampen this enthusiasm. They find them active and needing activity. They are quick to see, curious to ask questions, and anxious to co-operate in everything pertaining to the school. And it is delightful to note that the same methods which make the kindergarten a highly socialized community where there is much mutual sympathy, and co-operation operate also in the school so that it becomes something quite different from the school of other days when children were treated as little men and women and when the aim of the teacher was to have as little stir and activity as possible, doing violence to the nature of the child and often crippling him for life.

"The time has come when we may safely claim that the kindergarten with all that it has brought to the school of spirit and method gives enlarged capacity to do work of all kinds and its beneficent influence is felt not only in all grades of schools but in college and in after life." (Samuel T. Dutton, Superintendent of Schools, Brookline, Mass., in *Kindergarten Magazine* for April, 1899.)

In view of the attacks so freely and insistently made upon what is called the "sentimentalism" of the kindergarten, it may be well to call attention to the fact that none of the expert witnesses whose testimony I have quoted seem to have detected its existence. That among kindergartners there are some sentimentalists I have no doubt. That sentimentalism is inherent in the Froebelian ideal or tolerated in the best training schools for kindergartners I unhesitatingly deny. There is greater danger of its appearance in private than in public work because any person calling herself a kindergartner may be accepted as such by ignorant or thoughtless parents. In public kindergartens under competent supervision its persistence is impossible.

It is greatly to be desired that all cities establishing kindergartens in connection with their public schools, should insist upon having a specially qualified supervisor. Without watchful and intelligent guidance the kindergarten tends either to relapse into a mere play school or to become too closely conformed to the primary school. The ideal supervisor stands to the individual kindergartener in a relation similar to that which the latter occupies towards her children. She quickens their intellectual and moral aspiration, deepens in them the complementary impulses of self-culture and child-nurture, points out practical errors and suggests the ways and means of overcoming them. She must thoroughly understand the method of the kindergarten, its psycologic implications and its relationship to education as a whole. She must unite intellectual insight with moral earnestness and practical sagacity. Hence only the most gifted and illuminated kindergartners are adequate to the work of supervision.

Two great dangers assail the kindergarten and threaten to impede its progress towards the realization of Froebel's ideal. The first of these dangers is reversion to instinctive games and traditional toys. In some kindergartens, children are taught to play street games, while it has recently been urged that "peg boards, tops, bean bags, kites, dolls, jack-straws, hoops, spool, chalk and wire games and the whole toy world" should be added to the Froebelian instrumentalities. Tendencies such as these indicate a complete failure to comprehend what Froebel has done. He recognized in traditional games the deposit of unconscious reason; preserved what was good and omitted what was crude and coarse in these products of instinct; supplied missing links and presented a series of games wherein each is related to all the others and which, by means of dramatic and graphic representation, poetry and music, win for the ideals they embody a controlling power over the imagination. In like manner, from among traditional toys he selected those which possessed most educative value, ordered them into a related series and suggested a method by which they might be consciously used to interpret the child's experiences and develop his creative power. If this transfiguration of traditional games and toys is valueless, then the kindergarten has no *raison d'etre.* But if Froebel has translated the hieroglyphic of instinctive play and found means which, without detriment to the child's spontaneity, influence the growth of character and the trend of thought, then the clamor for street games and promiscuous toys is educational atavism.

The second danger which threatens the integrity of the kindergarten is the substitution of exercises which attempt to wind thought around some arbitrarily chosen center for those Froebelian exercises whose confessed aim is to assist thought to unwind itself. Too many kindergartners have allowed themselves to be betrayed into selecting some object such as a pine tree or a potato, and making all songs, games, stories and gift exercises revolve around it. Between these so-called cores of interest and the exercises clustered around them there is no valid connection. The clustering like the subject depends wholly upon the caprice of the teacher. Could such exercises succeed in their object, the pupils of different teachers would have their thoughts set to revolving around different centers and more than this around arbitrary and contingent centers. That such a procedure directly contradicts Froebel's ideal will be apparent to all who have understood his writings. That it likewise contradicts every true ideal of education will be evident to all who understand that the function of education is to substitute objective and universal for subjective and contingent associations. The discovery of related qualities in nature, the disclosure of their causes and the reduction of these causes to a system is the great work of science. The discovery of the related activities of mind and their genetic evolution is the work of psychology. The portrayal of the universal and divine man latent in each individual is the supreme achievement of literature and art. To lead pupils away from what is capricious, arbitrary and accidental, and thus capacitate them to receive and augment their scientific, æsthetic, literary and psychologic inheritance is the great duty of education. The substitution of arbitrary for necessary cores of thought wherever attempted is, therefore, the parody of education.

The future of the kindergarten in the United States is largely dependent upon the work of the normal schools for kindergarteners. The friends of the system must, therefore, view with disapprobation and even with dismay the rapid multiplication of schools with low standards of admission and a low conception of the training they should give. Inexperienced students are attracted to such schools, and the result is that the whole country is flooded with so-called kindergartners who are ignorant of the first principles of all true education.

In the early days of the Froebelian movement it was believed that in a single year young girls could be prepared to conduct a kindergarten. In most reputable training schools the course has now been extended to cover two years. The requirements for admission into these schools are, generally, graduation from a high school, or an education equivalent thereto. The courses of study include theory of the kindergarten gifts and occupations, study of the Mother Play, practice in songs and games, physical culture, lessons in singing, drawing, modeling and color, lectures on the art of story telling, and more or less observation of the practical work of the kindergarten. Finally, some trainers insist that their normal pupils shall not only observe but assist in actual work with the children.

In addition to this specific training, the best normal schools offer courses in science, literature, psychology, and the history of education.

Prominent among private training schools are those of Miss Garland, Miss Symonds, Miss Wheelock and Miss Page in Boston; that of Mme. Kraus-Boelte in New York; that conducted by Miss H. A. Niel in Washington, in connection with the work established and sustained by Mrs. Phœbe A. Hearst, and that of the Kindergarten institute of

Chicago, which is co-operative with the social settlement work in that city. Conspicuous among normal departments conducted under the auspices of kindergarten associations, is the training school of Miss C. M. C. Hart in Baltimore, which, in addition to a two years' course for kindergartners, offers a fine post-graduate course, and a course preparatory for normal work. Other training schools connected with kindergarten associations are the normal departments of the Froebel association, and the Free kindergarten association of Chicago, and the training schools conducted under the auspices of the Louisville and Golden Gate associations.

Kindergarten departments have been established in several great *quasi*-public institutions. Among the most notable of these are the kindergarten department of Pratt institute, Brooklyn, and of Teachers college, Columbia university, and of Workingman's institute, New York.

Of the 164 public normal schools in the United States 36 provide some kind of kindergarten training, the courses varying in length from about two years to six months. These kindergarten departments are distributed as follows in the normal schools of the different states:

New York, 7
Michigan, 5
Pennsylvania, 4
California, 4
Massachusetts, 3
New Jersey, 2
Connecticut, 2
Wisconsin, 2
Illinois, 1
Colorado, 1
Kansas, 1
Rhode Island, 1
Georgia, 1
Nebraska, 1
Ohio, 1
Minnesota, 1

The public normal schools whose kindergartens are most worthy of mention are those of Boston and Philadelphia. In general, however, the kindergarten work in public normal schools is inferior to that of private training schools, kindergarten associations and the great institutions to which reference has been made above.

Kindergartners are admitted to surpass all other teachers as students of educational literature. They are also distinguishing themselves by zealous and persistent attendance upon post-graduate courses in pedagogics, science, literature, history and psychology. Between the years 1880 and 1888 large numbers of St. Louis kindergartners participated in classes organized during successive winters for the study of Herodotus, Thucydides, Sophocles, Homer, Dante and Goethe. They also followed lecture courses in psychology and philosophy, and constantly attended classes devoted to the deeper study of Froebel's educational principles and the illustration of his method. Through the efforts of the Chicago kindergarten college post-graduate work of a high order has become a feature of Froebelian activity in that city, and for many years there has been conducted each winter a literary school whose lecturers are recognized as the greatest interpreters in America of the supreme works of literature. During successive winters Miss Laura Fisher, director of the public school kindergartens of Boston, has organized post-graduate classes in the study of the Mother Play and the Pedagogics of the Kindergarten and has also conducted valuable courses in literature and psychology. Through the efforts of Miss C. P. Dozier, supervisor of the New York kindergarten association, and Miss Mary D. Runyan, head of the kindergarten department of Teachers college, Columbia university, post-graduate work has been organized in New York city. Classes in psychology, literature and the philosophy of history are conducted by Miss Hart in Baltimore, and courses in literature and psychology are already given in connection with the young but flourishing work of Miss Niel in Washington. In Philadelphia, Pittsburg, Buffalo and other cities post-graduate work is less developed, but good beginnings have been made.

The power of the kindergarten over the minds of its students arises from the fact that it connects the ideal of self-culture with the ideal of child-nurture. The true woman does not wish to "deck herself with knowledge as with a garment, or to wear it loose from the nerves and blood that feed her action." Therefore, she responds with whole heart to the appeal to learn all she can, be all she can, and devote all she is and all she knows to the service of childhood.

Rooted in maternal impulses it would be strange indeed if the kindergarten did not appeal to mothers. That classes for mothers should come into existence was a predestined phase of the Froebelian movement. Whoever has studied the writings of Froebel knows that the education of mothers was one of the most important features of his endeavor. Practically, however, the work in this direction amounted to very little until a mothers' department was established in that unique institution, the Chicago kindergarten college. I call this institution unique because it has consciously attempted the transformation of the girls' college into a school for motherhood. The colleges for men offer many different courses. Why should not the colleges for women offer at least elective courses in subjects fitting their students for the vocation of mother and home maker? Why should not the study of Froebel's Mother Play, the use of kindergarten gifts and the practice of kindergarten games be made one of these elective courses? Why should not all institutions which ignore the mission of woman as nurturer be supplanted by institutions like the Chicago kindergarten college, which, while giving general culture, make it their supreme aim to fit women for the work, which, if there be any meaning in the process of natural evolution, is theirs by divine appointment? And, finally, why should not such institutions give instruction not only to young girls but to mothers themselves? During the single year 1891–92 the mothers' department of the Chicago college gave instruction to 725 mothers. In the eight years since its foundation it has given whole or partial courses to nearly five thousand mothers. The effects of such instruction in enhancing the sanctity and uplifting the ideals of family life can hardly be exaggerated. Recently the work of this department has been extended by holding convocations for the discussion of all phases of child-nurture. Four of such convocations have already been held, each of which had nine sessions of from two to two and one-half hours in length. The attendance was from three to five thousand persons.

While the maternal ideal is dominant in the Chicago college it is not exclusive. This organization supports a number of kindergartens wherein students learn to apply Froebelian principles. It has departments for kindergartners, kindergarten trainers and primary teachers. It has also departments of literature and publication and a philanthropic department, these several departments being all in the hands of competent specialists. Finally, it has developed and extended the literary and historic courses begun in St. Louis and by adding courses in science and art has connected the kindergarten with the total round of man's spiritual activity.

Radiating from the kindergarten college as its center the maternal movement is spreading throughout the United States. It is the highest reach of the Froebelian ideal and means nothing more nor less than the attempted regeneration of all human life through the regeneration of the family.

Froebel's supreme claim to our grateful remembrance rests upon the fact that consciously repeating the unconscious process of social evolution he set the little child in front of the great army of advancing humanity. Science affirms that the feebleness of infancy created the family and that from the family have been evolved the higher institutions. "Without the circumstances of infancy," writes one of our leading scientists,[1] "we might have become formidable through sheer force of sharpwittedness. But except for these circumstances we should never have comprehended the meaning of such phrases as self-sacrifice or devotion. The phenomena of social life would have been omitted from the history of the world and with them the phenomena of ethics and religion." In his cry, "Come, let us live for the children," Froebel utters in articulate speech the ideal whose unconscious impulsion set in motion the drama of human history. The little child was pioneer of the process which created human institutions. We must make him the pioneer of their perfection.

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[1] Cosmic Philosophy, John Fiske, II: 363.

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MONOGRAPHS ON EDUCATION
IN THE
UNITED STATES

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ELEMENTARY EDUCATION

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This Monograph is contributed to the United States Educational Exhibit by the State of New York.

ELEMENTARY EDUCATION

PART I — GENERAL SURVEY OF THE SCHOOL SYSTEM OF THE UNITED STATES

In all the schools of the United States, public and private, elementary, secondary and higher, there were enrolled in the year 1898 about sixteen and one-half millions (16,687,643) pupils. (See appendix I.) This number includes all who attended at any time in the year for any period, however short. But the actual average attendance for each pupil in the public schools (supported by taxes) did not exceed 98 days, although the average length of the school session was 143.1 days. There were enrolled in the aggregate of public and private schools out of each 100 of the population between the ages of 5 and 18 years, 71 pupils.

Out of the entire number of sixteen and a half millions of pupils deduct the pupils of private and parochial schools of all kinds, elementary, secondary, higher, and schools for art, industry and business, for defective classes and Indians, there remain over 15,000,000 for the public school enrollment, or nearly 91 per cent of the whole. (See appendix I.) In the 28 years since 1870 the attendance on the public schools has increased from less than 7,000,000 to 15,000,000. (Appendix II.) The expenditures have increased somewhat more, namely, from 63,000,000 to 199,000,000 of dollars per annum, an increase from $1.64 per capita of population to $2.67. To account for this *pro rata* increase of 61 per cent in the cost of the common schools one must allow for a slight increase in the average length of the school term, and for the increase of enrollment from less than 17 per cent to more than 20 per cent of the population. But the chief items of increase are to be found in teachers' wages for professionally educated teachers, and the cost of expert supervision. These account for more than two-thirds of the 50 per cent, while the remaining one-sixth (of the whole) is due to better apparatus and more commodious school buildings.

The increase of cities and large villages, owing to the influence of the railroad, has brought nearly one-half the school population within reach of the graded school holding a long session of from 180 to 200 days per year, and taught by professional teachers. (See appendix III.) In 1870 there were for each 10,000 inhabitants 12.75 miles of railway, but in 1890 the number of miles of railway for the same number of inhabitants had risen to 26.12 miles, or more than double the former amount. The effect of this increase of railway is to extend the suburbs of cities and vastly increase the urban population. The rural schools in sparsely settled districts still continue their old practice of holding a winter school with a session of 60 to 80 days only, and taught by the makeshift teacher who works at some other employment for two-thirds of the year. The school year of ideal length should be about 200 days, or 5 days per week for 40 weeks, *i. e.*, nine and one-half months. In the early days of city schools the attempt was made to hold a session of over 46 weeks in length, allowing only six weeks or less for three short vacations. But experience of their advantage to the pupil has led to the increase of the holidays to nearly double the former amount.

Reducing the total average attendance in all the schools, public and private, to years of 200 school days each, it is found that the average total amount of schooling each individual of the population would receive at the rates of attendance and length of session for 1898, is five years, counting both private and public schools.

The average schooling, it appears from the above showing, amounts to enough to secure for each person a little more than one-half of an elementary school course of eight years,— enough to enable the future citizen to read the newspaper, to write fairly well, to count, add, subtract, multiply and divide, and use the simplest fractions. In addition he acquires a little geographical knowledge, so important to enable him to understand the references or allusions in his daily newspaper to places of interest in other parts of the world. But the multiplicity of cheap books and periodicals makes the life of the average citizen a continuation of school to some extent. His knowledge of reading is called into use constantly, and he is obliged to extend gradually his knowledge of the rudiments of geography and history. Even his daily gossip in his family, in the shop, or in the field is to some extent made up of comments on the affairs of the state, the nation, or distant peoples,— China, Japan, Nicaraugua, or the Sandwich islands, as the case may be,— and world interests, to a degree, take the place of local scandals in his thoughts. Thus, too, he picks up scraps of science and literature from the newspaper, and everything that he learns becomes at once an instrument for the acquirement of further knowledge. In a nation governed chiefly by public opinion digested and promulgated by the daily newspaper, this knowledge of the rudiments of reading, writing, arithmetic and geography is of vital importance. An illiterate population is impenetrable by newspaper influence, and for it public opinion in any wide sense is impossible; its local prejudices are not purified or eliminated by thought and feeling in reference to objects common to the whole civilized world.

The transformation of an illiterate population into a population that reads the daily newspaper, and perforce thinks on national and international interests, is thus far the greatest good accomplished by the free public school system of the United States. It must be borne in mind that the enrollment in school of one person in every five of the entire population of the country means the same result for the southern states as for the northern, since the states on the Gulf of Mexico enroll nearly 22 per cent of their total population, colored and white, and the south Atlantic 20.70 per cent, while the north Atlantic and the western, mountain and

Pacific divisions enroll only 18 per cent, having a much smaller ratio of children of school age.

In a reading population one section understands the motives of the other, and this prevents political differences from becoming too wide for solution by partisan politics. When one section cannot any longer accredit the other with honest and patriotic motives, war is only a question of time. That this general prevalence of elementary education is accompanied by a comparative neglect of the secondary and higher courses of study is evident from the fact that out of the number of pupils enrolled more than ninety-five in every hundred are pursuing elementary studies; less than four in a hundred are in secondary studies in high schools, academies and other institutions; only one in a hundred (13 in one thousand) is in a college or a school for higher studies.

In considering the reasons for the increase of the length of the term of the elementary school and its adoption of a graded course of study, one comes upon the most important item of improvement that belongs to the recent history of education, namely, the introduction of professionally trained teachers. The first normal school established in the United States recently celebrated its fiftieth anniversary. It was founded at Lexington, Massachusetts, in 1839. The number of public normal schools supported by the state or municipal governments has increased since that year to 167, enrolling 46,245 students, and graduating nearly 8,000 per annum. To this number are to be added 178 private normal schools, with an aggregate of 21,293 students and 2,000 graduates. In 1880 there were 240 normal school students in each million of inhabitants; in 1897 there were 936, or nearly four times as many in each million.

The professionally educated teacher finds his place in the graded schools, above mentioned as established in cities and large villages, and kept in session for the entire scholastic year of 200 days. It is the experience of school superintendents that graduates of normal schools continue to improve in skill and efficiency for many years. The advantage of the professionally educated teacher above others is to be found in the fact that he has been trained to observe methods and devices of instruction. On entering a school taught by another teacher he at once sees, without special effort, the methods of teaching and management, and notes the defects as well as the strong points if there are any. He is constantly increasing his number of successful devices to secure good behavior without harsh measures, and to secure industry and critical attention in study. Every normal school has a thorough course of study in the elementary branches, taking them up in view of the higher branches from which they are derived, and explaining their difficult topics. This kind of work prepares the teacher in advance for the mishaps of the pupil, and arms him with the skill to assist self-activity by teaching the pupil to analyze his problem into its elements. He can divide each step that is too long for the pupil to take, into its component steps, down to any required degree of simplicity. The normal school graduate, too, other things being equal, has a better idea than other teachers of the educational value of a branch of study. He knows what points are essential, and what are accidental and subsidiary. He therefore makes his pupils thoroughly acquainted with those strategical positions, and shows him how to conquer all the rest through these.

As it would appear from the statistics given, the rural districts are precluded by their short school terms from securing professional teachers. The corps of teachers in a highly-favored city will be able to claim a large percentage of its rank and file as graduates of its municipal training schools — perhaps 50 to 60 per cent. But the cities and villages as a whole in their graded schools cannot as yet show an average of more than one teacher in four who has received the diploma of a normal school.

Another important advantage has been named as belonging to the schools of the village or city. They are graded schools, and have a regular course of study, uniformity of text-books, and a proper classification of pupils. In the small rural schools some 20 to 50 pupils are brought together under one teacher. Their ages vary from 4 years to 20, and their degree of advancement ranges from new beginners in the alphabet up to those who have attended school for 10 or 12 winters, and are now attempting Latin and algebra. It often happens that there is no uniformity of text-books, except perhaps in the spelling-book and reader, each pupil bringing such arithmetic, geography or grammar as his family at home happens to possess. Twenty pupils are classified in three classes in reading, three in spelling, and perhaps as many classes in arithmetic, grammar, geography, and other studies as there are pupils pursuing those branches. The result is from 20 to 40 separate lessons to look after, and perhaps five or 10 minutes to devote to each class exercise. The teacher finds himself limited to examining the pupil on the work done in memorizing the words of the book, or to comparing the answers he has found to the arithmetic problems with those in the printed key, occasionally giving assistance in some difficult problem that has baffled the efforts of the pupil — no probing of the lesson by analytical questions, no restatement of the ideas in the pupil's own words, and no criticism on the data and methods of the text-book.

This was the case in the old-time district school — such as existed in 1790, when 29 out of 30 of the population lived in rural districts; also as late as 1840, when only one in twelve lived in a city. As the railroad has caused villages to grow into cities, so it has virtually moved into the city a vast population living near railway stations in the country by giving them the morning newspaper and rapid transportation. In 1890 one-third of the population were living in cities of not less than 8,000 inhabitants. But the suburban populations made urban by the railroad — as indicated above — would swell the city population to one-half of the whole nation. Hence the great change now taking place in methods of building school houses and in organizing schools.

In the ungraded schools the naturally bright pupils accomplished a fair amount of work if they happened to have good text-books. They were able to teach themselves from the books. But the rank and file of the school learned a little reading, writing and arithmetic, and probably studied the same book for several winters, beginning at the first page on the first day of school each year. Those who needed no help from the teacher learned to help themselves and enjoyed a delightful freedom. Those who were slow and dull did not get much aid. Their industry may have been stimulated by fear of the rod, which was often used in cases of real or supposed indolence. Harsh measures may succeed in forcing pupils to do mechanical work, but they cannot secure much development of the power of thought. Hence the resources of the so-called "strict" teacher were to compel the memorizing of the words of the book.

With the growth from the rural to the urban condition of population the method of "individual instruction," as it is called, giving it a fine name, has been supplanted by class instruction, which prevails in village and city schools. The individual did not get much instruction under the old plan, for the simple reason that his teacher had only five or ten minutes to examine him on his daily work. In the properly graded school each teacher has two classes, and hears one recite while the other learns a new lesson. Each class is composed of twenty to thirty pupils of nearly the same qualifications as regards the degree of progress made in their studies. The teacher has thirty minutes for a recitation (or "lesson" as called in England), and can go into the merits of the subject and discuss the real thoughts that it involves. The meaning of the words in the book is probed, and the pupil made to explain it in his own language. But besides this all pupils learn more by a class recitation than by an individual recitation. For in the class each can see the lesson reflected in the minds of his fellow-pupils, and understand his teacher's views much better when drawn out in the form of a running commentary on the mistakes of the duller or more indolent pupils. The dull ones are encouraged and awakened to effort by finding themselves able to see the errors and absurdities of fellow-pupils. For no two minds take precisely the same view of a text-book exposition of a topic. One child is impressed by one phase of it, and another by a different phase. In the class recitation each one has his crude and one-sided views corrected more or less by his fellows, some of whom have a better comprehension of this point, and some of that point, in the lesson. He, himself, has some glimpses of the subject that are more adequate than those of his fellows.

The possibilities of a class recitation are, therefore, very great for efficient instruction in the hands of a teacher who understands his business. For he can marshal the crude notions of the members of the class one after another, and turn on them the light of all the critical acumen of the class as a whole, supplemented by his own knowledge and experience. From beginning to end, for thirty minutes, the class recitation is a vigorous training in critical alertness. The pupil afterwards commences the preparation of his next lesson from the book with what are called new "apperceptive" powers, for he finds himself noticing and comprehending many statements and a still greater number of implications of meaning in his lesson that before had not been seen or even suspected. He is armed with a better power of analysis, and can "apperceive," or recognize and identify, more of the items of information, and especially more of the thoughts and reflections, than he was able to see before the discussions that took place in the recitation. He has in a sense gained the points of view of fellow-pupils and teacher, in addition to his own.

It is presupposed that the chief work of the pupil in school is the mastery of text-books containing systematic treatises giving the elements of branches of learning taught in the schools. For in the United States more than in any other country text-book instruction has predominated over oral instruction, its method in this respect being nearly the opposite of the method in vogue in the elementary schools of Germany.

The evil of memorizing words without understanding their meaning or verifying the statements made in the text-book is incident to this method and is perhaps the most widely prevalent defect in teaching to be found in the schools of the United States. It is condemned universally, but, nevertheless, practiced. The oral method of Germany escapes this evil almost entirely, but it encounters another evil. The pupil taught by the oral method exclusively is apt to lack power to master the printed page and get out of it the full meaning; he needs the teacher's aid to explain the technical phrases and careful definitions. The American method of text-book instruction throws the child upon the printed page and holds him responsible for its mastery. Hence even in the worst forms of verbal memorizing there is perforce acquired a familiarity with language as it appears to the eye in printed form which gradually becomes more useful for scholarly purposes than the knowledge of speech addressed to the ear. This is the case in all technical, or scientific language, and in all poetry and literary prose; the new words or new shades of meaning require the mind to pause and reflect. This can be done in reading but not in listening to an oral delivery.

In the United States the citizen must learn to help himself in this matter of gaining information, and for this reason he must use his school time to acquire the art of digging knowledge out of books. Hence we may say that a deep instinct or an unconscious need has forced American schools into an excessive use of the text-book method.

In the hands of a trained teacher the good of the method is obtained and the evil avoided. The pupil is taught to assume a critical attitude towards the statements of the book and to test and verify them, or else disprove them by appeal to other authorities, or to actual experiments.

This ideal hovers before all teachers, even the poorest, but it is realized only by the best class of teachers found in the schools of the United States,— a class that is already large and is constantly increasing, thanks to the analytic methods taught in the normal schools. Text-book memorizing is giving place to the method of critical investigation.

This review of methods suggests a good definition of school instruction. It is the process of re-enforcing the sense-perception of the individual pupil by adding the experience of the race as preserved in books, and it is more especially the strengthening of his powers of thought and insight by adding to his own reflections the points of view and the critical observations of books interpreted by his teachers and fellow-pupils.

In the graded school the pupil is held responsible for his work in a way that is impossible in the rural school of sparsely-settled districts. Hence the method of investigation, as above described, is found in the city schools rather than in the rural schools. Where each pupil forms a class by himself, there is too little time for the teacher to ascertain the character of the pupil's understanding of his book. Even if he sees that there has been a step missed somewhere by the child in learning his lesson, he cannot take time to determine precisely what it is. Where the ungraded school makes some attempt at classification of pupils it is obliged to unite into one class say of arithmetic, grammar, or geography, pupils of very different degrees of progress. The consequence is that the most advanced pupils have not enough work assigned them, being held back to the standard of the average. They must "mark time" (or go through the motions of walking without advancing a step) while the rest are coming up. The least advanced find the average lesson rather too much for them, and become discouraged after trying in vain to keep step with their better prepared fellow-pupils. This condition of affairs is to be found in many rural districts even of those states where the advantages of classification are seen and appreciated in city schools, and an effort is in progress to extend those advantages to the rural schools. But the remedy has been, in many cases, worse than the disease. For it has resulted that classification gets in the way of self-help which the bright pupil is capable of, and the best scholars "mark time" listlessly, while the poorest get discouraged, and only the average pupils gain something.

It must be admitted, too, that in many village schools just adopting the system of grading, this evil of holding back the bright pupils and of over-pressure on the dull ones exists, and furnishes just occasion for the criticism which is made against the so-called "machine" character of the American public school. The school that permits such poor classification, or that does not keep up a continual process of readjusting the classification by promoting pupils from lower classes to those above them, certainly has no claim to be ranked with schools organized on a modern ideal.

I have dwelt on this somewhat technical matter because of its importance in understanding the most noteworthy improvements in progress in the schools of the United States. Briefly, the population is rapidly becoming urban, the schools are becoming "graded," the pupils of the lowest year's work placed under one teacher, and those of the next degree of advancement under a second teacher; perhaps from eight to twenty teachers in the same building, thus forming a "union school," as it is called in some sections. Here there is division of labor on the part of teachers, one taking only classes just beginning to learn to read and write, another taking the pupils in a higher grade. The inevitable consequence of such division of labor is increase of skill. The teacher comes to know just what to do in a given case of obstructed progress — just what minute steps of work to introduce — just what thin wedges to lift the pupil over the threshold that holds back the feeble intellect from entering a new and higher degree of human learning.

It will be asked: What proportion of the teachers of cities and villages habitually use this higher method in conducting recitations. According to a careful estimate, at least one-half of them may reasonably claim to have some skill in its use; of the one-half in the elementary schools who use it perhaps two-fifths conduct all their recitations so as to make the work of their pupils help each individual in correcting defects of observation and critical alertness. Perhaps the other three-fifths use the method in teaching some branches, but cling to the old memoriter system for the rest. It may be claimed for graduates of normal schools that a large majority follow the better method.

The complaint urged against the machine character of the modern school has been mentioned. I suppose that this complaint is made quite as often against good schools as against poor ones. But the critical-probing method of conducting a recitation is certainly not machine-like in its effects. It arouses in the most powerful manner the activity of the pupil to think and observe for himself. Machine-like schools do not follow this critical method, but are content with the memoriter system, that prescribes so many pages of the book to be learned verbally, but does not inquire into the pupil's understanding, or "apperception," as the Herbartians call it. It is admitted that about 50 per cent of the teachers actually teaching in the schools of villages and cities use this poor method. But it is certain that their proportion in the corps of teachers is diminishing, thanks to the two causes already alluded to: first, the multiplication of professional schools for the training of teachers; and second, the employment of educational experts as supervisors of schools.

The rural schools, which in the United States enroll one-half of the entire number of school children, certainly lack good class teaching, even when they are so fortunate as to obtain professionally educated teachers, and not five per cent of such schools in the land succeed in procuring better services than the "makeshift" teacher can give. The worst that can be said of these poorly taught schools is that the pupils are either left to help themselves to knowledge by reading their books under the plan of individual instruction, or, in the attempt at classification and grading, the average pupils learn something, while the bright pupils become listless and indolent for want of tasks commensurate with their strength and the backward pupils lose their courage for their want of ability to keep step. Even under these circumstances the great good is accomplished that all the pupils learn the rudiments of reading, writing and arithmetic, and all are made able to become readers of the newspapers, the magazines, and finally of books.

Another phase of the modern school that more than anything else gives it the appearance of a machine, and the American city schools are often condemned for their mechanism, is its discipline, or method of organization and government. In the rural school with twenty-five pupils, more or less, it makes little difference whether pupils come into the school room and go out in military order, so far as the work of the school is concerned. But in the graded school with three hundred to eight hundred pupils order and discipline are necessary down to the last particular, for the safety of the pupils as well as for the accomplishment of the ends for which the school exists. There must be regularity and punctuality, silence and conformity to order, in coming and going. The whole school seems to move like a machine. In the ungraded school a delightful individuality prevails, the pupil helping himself to knowledge by the use of the book, and coming and going pretty much as he pleases, with no subordination to rigid discipline, except perhaps when standing in class for recitation.

Regularity, punctuality, silence, and conformity to order, — military drill,— seem at first to be so much waste of energy,— necessary, it is true, for the large school, but to be subtracted from the amount of force available for study and thought. But the moment the question of moral training comes to be investigated, the superiority of the education given in the large school is manifest. The pupil is taught to be regular and punctual in his attendance on school and in all his movements, not for the sake of the school alone, but for all his relations to his fellow-men. Social combination is made possible by these semi-mechanical virtues. The pupil learns to hold back his animal impulse to chatter or whisper to his fellows and to interrupt their serious absorption in recitation or study, and by so much self-restraint he begins to form a good habit for life. He learns to respect the serious business of others. By whispering he can waste his own time and also that of others. In moving to and fro by a sort of military concert and precision he acquires the impulse to behave in an orderly manner, to stay in his own place and not get in the way of others. Hence he prepares for concerted action,—another important lesson in citizenship, leaving entirely out of account its military significance.

With the increase of cities and the growth of great industrial combinations this discipline in the virtues that lie at the basis of concerted action is not merely important, but essential. In the railroad system a lack of those semi-mechanical virtues would entirely unfit one for a place as laborer or employee; so, too, in a great mill or a great business house. Precision, accuracy, implicit obedience to the head or directive power, are necessary for the safety of others and for the production of any positive results. The rural school does not fit its pupils for an age of productive industry and emancipation from drudgery by means of machinery. But the city school performs this so well that it reminds some people unpleasantly of a machine.

The ungraded school has been famous for its harsh methods of discipline ever since the time of the flogging schoolmaster Orbilius whom Horace mentions. The rural schoolmaster to this day often prides himself on his ability to "govern" his unruly boys by corporal punishment. They must be respectful to his authority, obedient and studious, or else they are made to suffer bodily pain from the hand of the teacher. But harsh discipline leaves indurations on the soul itself, and is not compatible with a refined type of civilization. The schoolmaster who bullies his pupils into obedience does what he can to nurture them into the same type as himself.

In the matter of school discipline the graded school has an advantage over the school of the rural district. A corps of teachers can secure good behavior more efficiently than a single teacher. The system, and what is disparaged as its "mechanism," help this result. In many cities of the largest size in the United States, corporal punishment is seldom resorted to, or is even entirely dispensed with. (See appendix V.) The discipline of the school seems to improve after the discontinuance of harsh punishments. The adoption of a plan of building better suited for the purpose of graded schools has had much to do with the disuse of the rod. As long as the children to the number of one or two hundred studied in a large room under the eye of the principal of the school, and were sent out to small rooms to recite to assistant teachers, the order of the school was preserved by corporal punishment. When Boston introduced the new style of school building with the erection of the Quincy school in 1847, giving each class-teacher a room to herself, in which pupils to the number of fifty or so prepared their lessons under the eye of the same teacher that conducted their recitations (*i. e.*, "heard their lessons"), a new era in school discipline began. It is possible to manage a school in such a building with little or no corporal punishment.

The ideal of discipline is to train the pupil into habits of self-government. This is accomplished partly by perfecting the habit of moving in concert with others, and by self-restraint in all actions that interfere with the work of other pupils.

That the public schools of cities have worked great and favorable changes to the advantage of civil order cannot be doubted. They have generally broken up the feuds that used to prevail between the people of different precincts. Learning to live without quarreling with school-fellows is an efficient preparation for an orderly and peaceful life with one's neighbors.

The rural school, with all its shortcomings, was, and is to-day, a great moral force for the sparsely settled regions, bringing together the youth of the scattered families, and forming friendships, cultivating polite behavior, affording to each an insight into the motives and springs of action of his neighbors, and teaching him how to co-operate with them in securing a common good.

The city school is a stronger moral force than the rural school because of its superior training in the social habits named — regularity, punctuality, orderly concerted action and self-restraint.

Take any country with a school system, and compare the number of illiterate criminals with the total number of illiterate inhabitants, and also the number of criminals able to read and write with the entire reading population, and it will be found that the representation from the illiterate population is many times larger than from an equal number of people who can read and write. In the United States the prevailing ratio is about eight to one — that is to say, the illiterate population sends eight times its quota to jails. In the prisons or penitentiaries it is found that the illiterate stratum of the population is represented by two and a half times its quota. (See part IV of this monograph.) School education is perhaps in this case not a cause so much as an index of orderly tendencies in the family. A wayward tendency will show itself in a dislike of the restraints of school. If, however, the wayward can be brought under the humanizing influences of school, trained in good behavior, which means self-restraint and orderly concerted action, interested in school studies and the pursuit of truth, what can do more to insure a moral life, unless it is religion?

PART II — EDUCATIONAL ORGANIZATION IN THE UNITED STATES

The European student of education inquiring about schools always asks concerning the laws and regulations issued by the central government at Washington, taking for granted that things of such interest as education are regulated by the nation, as in Europe.

The central government of the United States, however, has never attempted any control over education within the several states. It is further than ever from any such action at the present time. The idea of local self-government is that each individual shall manage for himself such matters as concern him alone; that where two or more persons are concerned the smallest political subdivision shall have jurisdiction and legislative powers; where the well-being of several towns is concerned the county or the state may determine the action taken. But where the interests of more than one state are concerned, the nation has ultimate control.

While the general government has not interfered to establish schools in the states, it has often aided them by donations of land, and in some cases by money, as in the acts of 1887 and 1890, which appropriate annual sums in aid of agricultural experiment stations and increase the endowment of agricultural colleges, which were formerly established in 1862 by generous grants of land.

The total amount of land donated to the several states for educational purposes since 1785 to the present have been as follows:

	Acres
1. For public or common schools:	
Every 16th section of public land in states admitted prior to 1848 and the 16th and 36th sections since (Utah, however, having four sections)..........	67,893,919
2. For seminaries or universities:	
Two townships in each state or territory containing public land..............................	1,165,520
3. For agricultural and mechanical colleges:	
30,000 acres for each member of congress to which the state is entitled..........................	9,600,000
Total number of acres......................	78,659,439

At the rate of one dollar and a quarter an acre (the traditional price asked by the government for its lands) this amounts to about one hundred millions of dollars.

Besides this a perpetual endowment by act of 1887 is made of $15,000 per annum for each agricultural experiment station connected with the state agricultural college, and $25,000 perpetual additional endowment by act of 1890 for each of the colleges themselves — this is equivalent to a capitalized fund of one million dollars at four per cent for each state and territory, or in the aggregate about fifty millions more.

The general government supports the military school at West Point, established in 1802, to which each congressional district, territory (and the District of Columbia) is entitled to send one cadet, the president appointing ten additional cadets at large. Each cadet receives $540 a year to pay his expenses. (The course of study is four years. The number of graduates between 1802 and 1876 was 2,640, about fifty per cent of all admitted.)

The United States naval academy at Annapolis was established in 1845. Its course of study in 1873 was extended to six years. Cadets are appointed in the same manner as at West Point.

The general government provides for the education of the children of uncivilized Indians and for all the children in Alaska. There have been, besides the general grants referred to, special grants of land for educational purposes such as the "swamp lands" (Acts of 1849, 1850, 1860), by which 62,428,419 acres were given to 14 states (Alabama, Arkansas, California, Florida, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio and Wisconsin) and by some of these appropriated to education.

By the act of 1841 a half million of acres was given to each of sixteen states (including all above named except Indiana and Ohio, and besides these Kansas, Nebraska, Nevada and Oregon). This gives an aggregate of 8,000,000 of acres, the proceeds of most of which was devoted to education. The surplus funds of the United States treasury were in 1837 loaned to the older states for educational purposes to the amount of $15,000,000 and this fund constitutes a portion of the school fund in many of the states.

The aggregate value of lands and money given for education in the several states is therefore nearly three hundred millions of dollars.

In 1867 congress established a national bureau of education "for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several states and territories, and of diffusing such information respecting the organization and management of school systems and methods of teaching as shall aid the people of the United States in the establishment and maintainance of efficient school systems, and otherwise promote the cause of education throughout the country." This bureau up to 1898 has published 350 separate volumes and pamphlets including 30 annual reports ranging from 800 to 2,300 pages each. The policy of the national government is to aid education but not in anywise to assume its control.

The several states repeat in the general form of their state constitutions the national constitution and delegate to the subdivisions — counties or townships — the management of education. (See appendix VIII, The local unit of school organization.) But each state possesses centralized power and can exercise it when the public opinion of its population demands such exercise.

Compulsory attendance — Even in colonial times as far back as 1642 a compulsory law was enacted in Massachusetts inflicting penalties on parents for the neglect of education. In the revival of educational interest led by Horace Mann in the years after 1837, it was felt that there must be a state law, with specific provisions and penalties and this feeling took definite shape and produced legislative action. A truant law was passed in 1850 and a compulsory law in 1852, requiring a minimum of 12 weeks attendance on school each year for children between the ages of eight and fourteen under penalty of twenty dollars.

In the Connecticut colony in 1650 the Massachusetts law of 1642 was adopted. Amendments were adopted in 1805 and 1821. By a law of 1813 manufacturing establishments were compelled to see that "the children in their employ were taught to read, write and cipher [arithmetical calculation], and that attention was paid to their morals." In

1842 a penalty was attached to a similar law which forbade "the employment of children under the age of 15 years unless they had been instructed at school at least three months of the 12 preceding."

The efficiency of these early laws has been denied because cases of prosecution have not been recorded. But a law-abiding people does not wait until prosecuted before obeying the law.

The existence of a reasonable law is sufficient to secure its general obedience in most parts of the United States. But in the absence of any law on the subject the parents yield to their cupidity and do not send their children to school. The efficiency of a law is to be found in its results and if twenty parents in a district send their children to school in obedience to the law and would not otherwise have sent them, it follows that the law is very useful though the twenty-first parent is obdurate and refuses to send his children and yet is not prosecuted for it.

This explanation of the working of one compulsory law will throw light on the working of compulsory laws in the twenty-seven states and territories that have passed them. There are exceptional localities in each state where an obnoxious law is openly and frequently violated, but the law is obeyed in all but a few places. In each locality, too, there are individuals who are disposed to violate the law and succeed in doing so, while all the citizens except these few obey the law because they have a law-abiding disposition. Abolish the law and the number who neglect the education of their children will increase by a large per cent. More and more attention has been given in later years to drafting compulsory laws with provisions that are sure to be efficient. The advocates of these new laws are apt in their pleas for more stringent laws to do injustice to the old laws. The following paragraphs show what states have adopted compulsory laws and the dates of adoption (the earlier dates in Connecticut and Massachusetts being unnoticed):

Statistics of compulsory attendance—Thirty states, one territory and the District of Columbia have laws making education compulsory, generally at a public or approved private school. Sixteen states and one territory do not make education compulsory, although all of these have fully organized systems of schools free to every child of school age of whatever condition.

The most general period of required attendance at school is from eight to fourteen years of age, as is the case in Vermont, District of Columbia, West Virginia, Indiana, Michigan, North Dakota, South Dakota, Nebraska, Kansas, Montana, Colorado, Utah, Nevada, Idaho, Oregon and California. It begins likewise at eight, but is extended to 15 in Maine and Washington, and is from eight to 16 in New Hampshire, Connecticut, New York, Pennsylvania, Minnesota and New Mexico.

The child is required to begin attendance at the earlier age of seven, and continue to 12 in New Jersey, to 13 in Wisconsin, to 14 in Massachusetts, Kentucky and Illinois; to 15 in Rhode Island, and to 16 in Wyoming.

This is a general statement of age limits; the required time period is in some states shortened in the case of children employed to labor, or extended in the case of those not so employed, or growing up in idleness, or illiterate.

In Massachusetts and Connecticut the child is required to attend the full time that the schools are in session; in New York and Rhode Island, also, the full term, with certain exceptions in favor of children employed to work. In Pennsylvania the attendance is required for 70 per cent of the full term; in California for 66 2-3 per cent; for 20 weeks annually in Vermont, New Jersey, Ohio and Utah; 16 weeks annually in Maine, West Virginia, Illinois, Michigan and Nevada; 12 weeks annually in New Hampshire, District of Columbia, Indiana, Wisconsin, Kansas, North Dakota, South Dakota, Nebraska, New Mexico, Idaho, Washington, Oregon; and eight weeks annually in Kentucky.

In the following states habitual truants are sent to some special institution (truant or industrial school, reformatory, parental home, etc.): Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Indiana, Minnesota and Michigan.

Massachusetts requires counties, and New York requires cities to maintain truant schools, or provide for their truants in the truant schools of neighboring localities. Illinois requires cities of over 100,000 inhabitants to maintain truant schools. In Rhode Island towns and cities must provide suitable places for the confinement and instruction of habitual truants.

Clothing is furnished in case of poverty to enable children to attend school in Vermont, Indiana and Colorado.

Laws absolutely prohibiting the employment of children under a specified minimum age in mercantile or manufacturing establishments are in force in New Hampshire (under 10 years), Rhode Island (under 12), and Massachusetts and Connecticut (under 14). These states, together with Vermont, New York, New Jersey, Ohio, Illinois, Michigan, North and South Dakota, have laws permitting the employment of children of a certain age only while the schools are not in session, or provided they have already attended school a given number of weeks within the year.

Statistics of supervision — There are county superintendents of schools in all those states where the county is a political unit for the administration of civil affairs other than courts of law. About thirty-five states have this form of organization. But in the six New England states and in Michigan the only supervision is that of the township, and the counties in those states are units almost solely for the administration of justice through county courts. In Arkansas, Texas and North Carolina supervision is only that of the subdivisions of townships described as districts. Louisiana, Mississippi and West Virginia have a modified township supervision. The county superintendents are elected by the people in only 13 states. In the rest they are appointed by some state or county officers, or chosen by the combined vote of the school boards. (See appendix VIII for an explanation of the local unit of school organization.)

Each state has a superintendent of public instruction. He has this title in 29 states; in the remaining states other designations, as "superintendent of common schools," "of free schools," or "of public schools," "of education" or "commissioner of public schools," are used; he is called "secretary of state board of education" in Massachusetts and Connecticut.

Eight hundred and thirty-six (836) cities have superintendents of their public schools.

School boards — In cities the local boards which have the management of the schools are generally termed "boards of education;" in towns and districts the designations most generally used are "school directors" and "school trustees."

They are termed "school directors" in Arkansas, Illinois, Iowa, Louisiana, Pennsylvania, Tennessee and Washington; "school trustees" in Indiana, Kentucky, New Jersey, New York, Mississippi, Nevada, South Carolina and Texas; "school boards" in Michigan, Wisconsin, Nebraska and New Hampshire; "school committees" in Massachusetts and Rhode Island; "school visitors" in Connecticut; "superintending school committees" in Maine; "boards of education" in Ohio; and "prudential committees" in Vermont.

These boards are similar in their constitution, powers and duties, and are generally chosen by the voters at elections. They are corporate bodies and can make contracts, acquire, hold and dispose of property.

They employ teachers (and superintendents when such are deemed necessary) and fix their salaries. They make the rules and regulations for the government of the schools and fix the course of study and the list of text-books to be used. They hold meetings monthly or oftener.

Women in school administration — There are at present (1899) two women holding the position of state superintendent of schools, 18 that of city superintendent, and 256 that of county superintendent. The last named are divided between California, Colorado, Idaho, Illinois, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Montana, Nebraska, New York, North Dakota, Oklahoma, Pennsylvania, South Dakota, Tennessee, Utah, Vermont, Washington, Wisconsin and Wyoming. In all these states, women hold minor school offices also. Ohio, Maine, New Hampshire, Massachusetts, Rhode Island and Connecticut have no officers corresponding to county superintendents, but in all those states there are women who are members of county examining boards, township superintendents and the like. They may be district trustees or members of local school boards in still other states, as in New Jersey. Women may hold any school office in Colorado, Idaho, Illinois, Indiana, Louisiana, Oregon, South Dakota, Utah, Vermont, Wyoming, and any office of school management in Minnesota. One of the members of the Iowa educational board of examiners must be a woman.

Women have like suffrage, in all particulars, with men in Colorado, Idaho, Utah and Wyoming. With certain limitations specified, in some of the states they may vote at school elections in Arizona, Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oregon, South Dakota, Vermont, Washington and Wisconsin. The limitations, when there are any, usually restrict the suffrage of women to widows with children to educate, guardians and taxpayers, or to certain kinds of elections.

Salaries of teachers — The expenditure for salaries in the public schools, teachers and superintendents both included, was $123,809,412, in 1897–98, or 63.8 per cent of the total expenditure for school purposes. The highest average salaries are found in the western division, among the Pacific states and territories, the average per month for men being $58.59, and for women $50.92, in that section of the union. The lowest average salaries and the least variance between the averages for men and women are found in the South Atlantic section. The averages are, for men $31.21, and for women $31.45.

The length of the school year must be considered in determining the annual salary. This period averages for the whole country 143.1 days, or about seven months of 20 days each, and ranges from 98.6 days in the south central division to 174.5 days in the North Atlantic. (See appendix VI, Teachers' pensions, etc.)

Co-education of the sexes — In both the central and the western divisions the education of boys and girls in the same schools is common and exceptions rare in the public schools. In the North and South Atlantic divisions many of the older cities continue to educate the girls in separate schools. In newly-added suburban schools, however, co-education is the rule (as in Boston, for example). In the rural districts of the Atlantic divisions north and south, co-education has always been the custom. Considering the whole country, it may be said that co-education, or the education of boys and girls in the same classes, is the general practice in the elementary schools of the United States. The cities that present exceptions to this rule are fewer, apparently, than 6 per cent of the total number. In the majority of these cities the separation of boys and girls has arisen from the position or original arrangement of buildings, and is likely to be discontinued under more favorable conditions. Of the 50 principal cities enumerated by the census of 1890, 4, namely, Philadelphia (Pennsylvania); Newark (New Jersey); Providence (Rhode Island); and Atlanta (Georgia) — report separation of the sexes in the high schools only; 2 cities of this class, San Francisco (California), and Wilmington (Delaware), reported in 1892, separation in all grades above the primary. In 6 cities, New York and Brooklyn (New York); Boston (Massachusetts); Baltimore (Maryland); Washington (District of Columbia), and Louisville (Kentucky) — both separate and mixed classes are found in all grades. Five cities of the second class, having a population of 8,000 or more, report separation of the sexes in the high schools, and 10 cities of the same group separate classes in other grades. Of cities whose population is less than 8,000, nine report separate classes for boys and girls in some grades.

Co-education is the policy in about two-thirds of the total number of private schools reporting to this bureau, and in 65 per cent of the colleges and universities.

Sectarian division of school funds — In connection with this matter of state compulsory laws against neglect of schools it is well to mention the provisions made in the several states prohibiting appropriations of money to aid denominational schools.

There are forty states with constitutional provisions forbidding all, or at least sectarian diversion of the money raised for the support of education.

1. Constitutions which prohibit sectarian appropriations — California,[1] Colorado, Florida, Georgia, Idaho, Illinois, Indiana,[2] Louisiana, Michigan, Minnesota, Mississippi,[3] Missouri, Montana, New Hampshire, North Dakota, Oregon,[2] South Dakota, Texas, Washington, Wisconsin,[2] Wyoming, — 21 states.

2. Constitutions which do not prohibit sectarian appropriations — Alabama,[4] Arkansas,[4] Connecticut, Delaware, Iowa,[4] Kansas, Kentucky,[5] Maine, Maryland, Massachusetts, Nebraska,[6] Nevada,[6] New Jersey,[7] New York, North Carolina, Ohio, Pennsylvania,[4] Rhode Island, South Carolina,[6] Tennessee, Vermont, Virginia, West Virginia,— 23 states.

3. Constitutions which prohibit any diversion of the school fund — Alabama, Arkansas, California, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New

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[1] Can make per capita grants to institutions.

[2] Covers only religious and theological institutions.

[3] Prohibits any devise, legacy, or gift by last will and testament to religious or ecclesiastical corporations or societies.

[4] Sectarian appropriations can be made by two-thirds vote of all the members of both houses of the legislature.

[5] Has a revised constitution pending popular adoption.

[6] Prohibits sectarian instruction in public schools.

[7] Prohibits appropriations to societies, associations or corporations.

Jersey, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Washington, West Virginia, Virginia, Wisconsin,— 36 states.

The local unit of school organization — The state exercises remote authority over all public schools in its borders. The county in most states has a closer supervision of all schools in its limits, but has very little to do with schools in New England. In certain states it becomes the unit for the entire local administration of public schools. The town or township takes more or less of the local functions in other states, and the district becomes a local unit for variable functions in yet others. In 35 counties of Texas there is a community system. Counties generally receive, hold and disburse moneys for townships and districts formed by subdivision of counties. Towns or townships generally hold the same relation to districts formed by division of towns or townships. In a few states districts have their own tax collectors and treasurers.

The summarized statement below shows the principal agency through which local support and control of schools is exercised, special laws excepted, under which cities, towns and independent districts exist.

County — Alabama, with either town or township; Florida, with provision for districts of limited power; Georgia; Louisiana, recognizing congressional townships in accounts of sixteenth section land funds; Maryland; Mississippi, with provision for separate districts; North Carolina, with districts capable of holding real estate; Tennessee, with some local functions in districts and only supervisory powers in sub-districts; Utah, with provision for division.

Town or township — Alabama, the congressional township[1] for administrative convenience, its officers appointed and its accounts kept by county officers; Connecticut, the town may abolish districts; Illinois, township based on congressional township or district, optional; Indiana, New Jersey, Ohio and Pennsylvania, each township, incorporated town or city (or borough in Pennsylvania), a district corporation for school purposes; Iowa, township based on congressional township, with sub-districts for supervisory convenience and independent districts, both in use; Maine, Massachusetts; Minnesota, township may be a district as a part of a county; New Hampshire; New York, recognized for certain land funds, but districts generally; North Dakota, based on congressional township; Rhode Island, may create or abolish districts; South Dakota, based on congressional township; Vermont, Wisconsin, optional in formation of districts.

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[1] The expression "congressional township" refers to the division established in new territories by the government survey. Lines of latitude and longitude cross one another six statute miles apart, making townships exactly six miles square.

District — Arkansas, Arizona, California, Colorado; Connecticut, where not abolished by the town; Delaware, Florida, Idaho; Illinois, optional with townships; Iowa, independent districts as well as townships; Kansas, Minnesota, Missouri, districts may be less than townships; Kentucky, Michigan, Mississippi, optional; Montana, Nebraska; Nevada, each village, town or city is a district; New Mexico; New York, commissioner's district, a county or part of a county, has supervisory authority, school districts are parts of commissioners' districts, towns recognized for certain land funds; North Carolina, with limited powers as stated under county; Oklahoma, Oregon, South Carolina; Tennessee, with limited powers as stated under county; Texas, but cities may acquire exclusive control of their schools, towns and villages may be incorporated for school purposes only, in 35 community counties families associate from year to year to support schools and draw their share of public money; Utah, permissible as stated under county; Virginia, West Virginia, corresponding geographically to magisterial districts; Washington, each city or town (incorporated); Wisconsin, optional, see town or township; Wyoming.

PART III — THE ELEMENTARY COURSE OF STUDY

A committee appointed by the National Educational Association in 1894 prepared a course of study for the eight years of the elementary schools recommending two innovations, namely, the introduction of Latin, French or German in the eighth year and algebra in the seventh and eighth years. The following presents the course as given in the report of the committee together with a conspectus in the nature of a yearly programme.

ELEMENTARY SCHOOL COURSE

Reading. Eight years, with daily lessons.

Penmanship. Six years, ten lessons per week for first two years, five for third and fourth, and three for fifth and sixth.

Spelling Lists. Fourth, fifth and sixth years, four lessons per week.

Grammar. Oral, with composition or dictation, first year to middle of fifth year, text-book from middle of fifth year to close of seventh year, five lessons per week. (Composition writing should be included under this head. But the written examinations on the several branches should be counted under the head of composition work.)

Latin or French or German. Eighth year, five lessons per week.

Arithmetic. Oral first and second year, text-book third to sixth year, five lessons per week.

Algebra. Seventh and eighth years, five lessons per week.

Geography. Oral lessons second year to middle of third year, text-book from middle of third year, five lessons weekly to seventh year, and three lessons to close of eighth.

Natural Science and Hygiene. Oral lessons, 60 minutes per week, eight years.

History of United States. Five hours per week seventh year and first half of eighth year.

Constitution of United States. Last half of the eighth year.

General History and Biography. Oral lessons, 60 minutes a week, eight years.

Physical Culture. 60 minutes a week, eight years.

Vocal Music. 60 minutes a week, eight years.

Drawing. 60 minutes a week, eight years.

Manual Training or Sewing and Cooking. One-half day each week in seventh and eighth years.

GENERAL PROGRAM

BRANCHES	1st year	2d year	3d year	4th year	5th year	6th year	7th year	8th year
Reading	10 lessons a week		5 lessons a week					
Writing	10 lessons a week		5 lessons a week		3 lessons a week			
Spelling lists				4 lessons a week				
English grammar	Oral, with composition lessons					5 lessons a week with text-book		
Latin, French, or German								5 lessons
Arithmetic	Oral, 60 minutes a week		5 lessons a week with text-book					
Algebra							5 lessons a week	
Geography		Oral, 60 minutes a week		5 lessons a week with text-book			3 lessons a week	
Natural Science+Hygiene	Sixty minutes a week							
United States History							5 lessons a week	
United States Constitution								5 ls
General History	Oral, sixty minutes a week							
Physical Culture	Sixty minutes a week							
Vocal Music	Sixty minutes a week divided into 4 lessons							
Drawing	Sixty minutes a week							
Manual Training or Sewing+Cookery							One-half day each week	
Number of Lessons	20+7 daily exer.	20+7 daily exer.	20+5 daily exer.	24+5 daily exer.	27+5 daily exer.	27+5 daily exer.	23+6 daily exer.	23+6 daily exer.
Total Hours of Recitations	12	12	11 2-3	13	16 1-4	16 1-4	17 1-2	17 1-2
Length of Recitations	15 min	15 min	20 min	20 min	25 min	25 min	30 min	30 min

The subjects actually taught in the elementary schools — In the report of the National bureau of education for 1888–89 (pp. 373–410), from a selected list of 82 of the most important cities of the nation, statistics are given showing the amount of time consumed in the entire eight years of the elementary course on each of the branches constituting the curriculum. The returns included 26 branches, one of which was spelling. The total number of hours of instruction in the entire eight years varied in the different cities from 3,000 to 9,000, with a general average of about 7,000 hours, which would mean that each pupil used about four and a half hours per day for 200 days in actual study and in recitation or class exercises. The amount of time reported as used by pupils in studying and reciting spelling during the eight years varied from about 300 to 1,200 hours, with an average of 516. This means that from 37 to 150 hours a year, with average of 77 hours a year for eight years, was devoted to spelling. The English speaking child who learns to read has to use an inordinate amount of time in memorizing the difficult combinations of letters used to represent English words.

This report of the bureau of education gives the time devoted to reading in 82 cities as ranging from about 600 to about 2,000 hours, and the average as 1,188 hours. Thus from 75 to 250 hours a year, with an average of 150, are spent in learning to read.

Geography is reported as using from 200 to 1,000 hours, with an average of about 500, or 25 to 125 hours per year, the average being rather more than 60 hours a year. This, we see, is less than the time devoted to spelling.

Arithmetic, as shown by the report, still receives more attention than any other branch. The amount of time used varies from 600 to 2,240 hours, with an average of about 1,190 hours — that is to say, from 75 to 280 hours per year — an average of 150 hours a year. No other nation gives so much time to arithmetic. The question naturally arises whether corresponding results are obtained in the mastery of this difficult branch, and whether so much arithmetic strengthens or weakens the national character on the whole.

Turning from arithmetic to grammar, we find a great falling off in the amount of attention it receives compared with the time assigned to it a few years ago. The 82 cities report a very large substitution of "language lessons" for technical grammar. Grammar proper gets from 65 to 680 hours of the course, with an average of about 300 hours. This would allow from 8 to 80 hours, with an average of 38 hours per year, if distributed over the entire course. But it is evident that grammar proper is, as a study, not profitable to take up until the seventh year of the course of study. But the language lessons, which are practiced in all the grades above the lowest two, more than compensate for any curtailment in technical grammar and "parsing."

Mathematics gives an insight into the nature of matter and motion, for their form is quantitative. But the form of mind on the other hand is shown in consciousness — a subject and object. The mind is always engaged in predicating something of something, always modifying something by something, and the categories of this mental operation are the categories of grammar, and appear as parts of speech. The child by the study of grammar gets some practice in the use of these categories and acquires unconsciously a power of analysis of thoughts, motives and feelings, which is of the most practical character.

History, which gives an insight into human nature as it is manifested in social wholes — tribes, nations and peoples — is a study of the elementary school, usually placed in the last year or two of the course, with a text-book on the history of the United States. The returns from the 82 cities show that this study everywhere holds its place, and that it receives more than one-half as much time as grammar. Considering the fact that grammar is begun a year earlier, this is better than we should expect. With history there is usually joined the study of the constitution of the United States for one-quarter of the year. Besides this, some schools have taken up a special text-book devoted to civics, or the duties of citizens. History ranges from 78 to 460 hours, with an average of about 150.

General history has not been introduced into elementary schools, except in a few cases by oral lessons. Oral lessons on physiology, morals and manners, and natural science have been very generally introduced. The amount of time assigned in 66 cities to physiology averages 169 hours; to a course of lessons in morals and manners in 27 cities 167 hours; to natural science on an average in the 39 cities that give a systematic course of lessons, 176 hours.

Singing is quite general in all the schools, and instruction in vocal music is provided for in many cities. Lessons in cookery are reported in New Haven (80 hours); and Washington, D. C. (114 hours). It is also taught in Boston, and many other cities not reporting it in the list of 82.

Physical culture is very generally taught. Of the 82 cities, 63 report it as receiving on an average 249 hours a year.

Manual training — Manual training is by no means a novelty in American schools. Thomas Jefferson recommended it for the students of the University of Virginia, and Benjamin Franklin included it in his plan for an academy in Philadelphia. An active propaganda was carried on in behalf of manual labor in educational institutions for many years, beginning about 1830, and some of our foremost institutions had their origin under its influence. But what is now known as "manual training" is traced to an exhibit of a Russian institution at the centennial exposition in 1876. The value of the system of hand training there suggested was recognized by such men as John D. Runkle and C. M. Woodward, who became advocates of the new idea and introduced it into the institutions under their charge. Strong opposition was met among schoolmen for a time, but manual training has steadily grown in popularity, and with its growth it has constantly improved in matter and method, and consequently in usefulness. In 1898 manual training was an essential feature in the public school course of 149 cities. In 359 institutions other than city schools there is training which partakes more or less of the nature of manual training, and which belongs in a general way to the same movement. These institutions embrace almost every class known to American education, and the manual features vary from the purely educational manual training of the Teachers college in New York city to the specific trade instruction of the apprentice schools.

In many cases the legislatures have taken cognizance of the movement. Massachusetts requires every city of 20,000 inhabitants to maintain manual training courses in both elementary and high schools. Maine authorizes any city or town to provide instruction in industrial or mechanical drawing to pupils over 15 years of age; industrial training is authorized by general laws in Connecticut, Illinois, Indiana (in cities of over 100,000 population), Maryland, New Jersey, New York, Pennsylvania, Utah, Wisconsin and Wyoming. Congressional appropriations are regularly made for manual training in the District of Columbia; Georgia authorizes county manual labor schools, and in Washington manual training must be taught in each school under the control of the State normal school.

Kindergartens — Kindergartens are authorized by general law in Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Michigan, New York, Ohio, Oregon, Pennsylvania, Vermont and Wisconsin.

Cities also establish kindergartens through powers inherent in their charters. In 1897–98 there were public kindergartens in 189 of the 626 cities of 8,000 population and over. In these 189 cities there were 1,365 separate kindergartens supported by public funds. The number of kindergarten teachers employed was 2,532, and under their care were 95,867 children, 46,577 boys and 49,290 girls.

Information was obtained concerning 2,998 private kindergartens in 1897–98 and it is probable that at least 500 others were in existence. The 2,998 private kindergartens had 6,405 teachers and 93,737 pupils. It will be seen that the total number of kindergartens, public and private, was 4,363, with 8,937 teachers and 189,604 pupils. The actual number of pupils enrolled in kindergartens in the United States in 1897–98 must have exceeded 200,000.

PART IV — THE PLACE OF POPULAR EDUCATION IN THE IDEALS OF THE AMERICAN PEOPLE

Education in the United States is regarded as something organic — something belonging essentially to our political and social structure. Daniel Webster announced, in his clear and incisive manner, this necessity that appertains to the American form of government. He said: "On the diffusion of education among the people rests the preservation and perpetuation of our free institutions. I apprehend no danger to our country from a foreign foe. * * * Our destruction, should it come at all, will be from another quarter. From the inattention of the people to the concerns of the government, from their carelessness and negligence, I confess I do apprehend some danger. I fear that they may place too implicit confidence in their public servants, and fail properly to scrutinize their conduct; that in this way they may be the dupes of designing men and become the instruments of their undoing. Make them intelligent and they will be vigilant; give them the means of detecting the wrong and they will apply the remedy."

We are making the experiment of self-government — a government of the people by the people — and it has seemed a logical conclusion to all nations of all times that the rulers of the people should have the best education attainable. Then, of course, it follows that the entire people of a democracy should be educated for they are the rulers.

Quoting again from Webster's Plymouth oration in 1822: "By general instruction we seek as far as possible to purify the whole atmosphere, to keep good sentiments uppermost, and to turn the strong current of feeling and opinion, as well as the censures of the law and the denunciations of religion, against immorality and crime."

This necessity for education has been felt in all parts of the nation, and the whole subject is reasoned out in many a school report published by city or state. By education we add to the child's experience the experience of the human race. His own experience is necessarily one-sided and shallow; that of the race is thousands of years deep, and it is rounded to fullness. Such deep and rounded experience is what we call wisdom. To prevent the child from making costly mistakes we give him the benefit of seeing the lives of others. The successes and failures of one's fellow-men instruct each of us far more than our own experiments.

The school attempts to give this wisdom in a systematic manner. It uses the essential means for its work in the shape of text-books, in which the experience of the race is digested and stated in a clear and summary manner, in its several departments, so that a child may understand it. He has a teacher to direct his studies and instruct him in the proper methods of getting out of books the wisdom recorded in them. He is taught first in the primary school how to spell out the words and how to write them himself. Above all, he is taught to understand the meaning of the words. All first use of words reaches only a few of their many significations; each word has many meanings and uses, but the child gets at only one meaning, and that the simplest and vaguest, when he begins. His school work is to train him into accuracy and precision in the interpretation of language. He learns gradually to fill each word of the printed page with its proper meaning. He learns to criticise the statements he reads, and to test them in his own experience and by comparison with other records of experience.

In other words, the child at school is set to work to enlarge his own puny life by the addition of the best results of other lives. There is no other process so well adapted to insure a growth in self-respect as the mastery of the thought of the thinkers who have stored and systematized the experience of mankind.

This is the clue to the hopes founded on education. The patriotic citizen sees that a government managed by illiterate people is a government of one-sided and shallow experience, and that a government by the educated classes insures the benefits of a much wider knowledge of the wise ways of doing things.

The work of the school produces self-respect, because the pupil makes himself the measure of his fellows and grows to be equal to them spiritually by the mastery of their wisdom. Self-respect is the root of the virtues and the active cause of a career of growth in power to know and power to do. Webster called the free public school "a wise and liberal system of police, by which property and the peace of society are secured." He explained the effect of the school as exciting "a feeling of responsibility and a sense of character."

This, he saw, is the legitimate effect; for, as the school causes its pupils to put on the forms of thought given them by the teacher and by the books they use — causes them to control their personal impulses, and to act according to rules and regulations — causes them to behave so as to combine with others and get help from all while they in turn give help; as the school causes the pupil to put off his selfish promptings, and to prefer the forms of action based on a consideration of the interests of others — it is seen that the entire discipline of the school is ethical. Each youth educated in the school has been submitted to a training in the habit of self-control and of obedience to social order. He has become to some extent conscious of two selves; the one his immediate animal impulse, and the second his moral sense of conformity to the order necessary for the harmonious action of all.

The statistics of crime confirm the anticipations of the public in regard to the good effects of education. The jails of the country show pretty generally the ratio of eight to one as the quotas of delinquents furnished from a given number of illiterates as compared with an equal number of those who can read and write. Out of 10,000 illiterates there will be eight times as many criminals as out of 10,000 who can read and write. In a state like Michigan, for example, where less than five per cent of the people are illiterate, there are 30 per cent of the criminals in jail who are illiterate. The 95 per cent who are educated to read and write furnish the remaining 70 per cent.

In comparing fractions, it is necessary to consider the denominators as well as the numerators. Comparing only the numerators, we should say education produces more crime than illiteracy; for here are only 30 per cent of those criminals from the illiterate class, but 70 per cent are from those who can read and write. On the other hand, taking the denominators also into consideration, we say: But there are less than five per cent illiterates and more than 95 of educated persons in the entire adult population. Hence the true ratio is found, by combining the two fractions, to be one-eighth, or one to eight for the respective quotas furnished. $(\frac{30}{5} : \frac{70}{95} :: 8 : 1)$.

The penitentiaries, or state prisons, contain the selected criminals who have made more serious attacks on person and property and on the majesty of the law than those left in the jails. These, therefore, come to a larger extent from the 70 per cent of arrests which are from the educated class; and it is found, by comparing the returns of the 20 odd states that keep records of illiteracy, that the illiterates furnish from two to four times their quota for the prisons, while they furnish eight times their quota for the jails and houses of correction.

But it is found on investigation that the criminals who can read and write are mostly from the ranks bordering on illiteracy. They may be described as *barely* able to read and write, but without training in the use of those arts for acquainting themselves with the experience and wisdom of their fellow-men.[1]

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[1] A point is made that those states which have the completest systems of education have the most criminals in their jails and prisons. This is true, but its significance is not read aright until one sees by an analysis of the causes of arrest that it is not a real increase of crime, but an increase of zeal on the part of the community to abolish the seeds of crimes, to repress the vices that lead to crime.

It is against all reason and all experience that the school whose two functions are to secure good behavior and an intelligent acquaintance with the lessons of human experience, should not do what Webster said, namely, "Prevent in some measure the extension of the penal code, by inspiring a salutary and conservative principle of virtue and of knowledge in an early age."

Thus the political problem, which proposes to secure the general welfare by intrusting the management of the government to representatives chosen by all the people, finds its solution in the establishment of schools for the people.

PART V — HISTORICAL BEGINNINGS OF SCHOOLS IN THE UNITED STATES

All who become interested in the system of education prevailing in the United States and see the direct bearing it has on the realization of the ideal of self-government, feel an interest in the question of its origin. Anything is best understood when seen in the perspective of its history. We see not only what is present before us but its long trend hitherward.

The school is the auxiliary institution founded for the purpose of reinforcing the education of the four fundamental institutions of civilization. These are the family, civil society (devoted to providing for the wants of food, clothing, and shelter), the state, the church. The characteristic of the school is that it deals with the means necessary for the acquirement, preservation, and communication of intelligence. The mastery of letters and of mathematical symbols; of the technical terms used in geography and grammar and the sciences; the conventional meaning of the lines used on maps to indicate water or mountains or towns or latitude and longitude, and the like. The school devotes

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In Massachusetts, for example, there were in 1850, 3,351 arrests for drunkenness, while in 1885, the number had increased to 18,701. But meanwhile the crimes against person and property had decreased from 1860 to 1885 forty-four per cent, making allowance for increase of population. Life and property had become more safe, but drunkenness had become less safe.

itself to instructing the pupil on these dry details of arts that are used to record systematic knowledge. These conventionalities once learned, the youth has acquired the art of self-help; he can of his own effort open the door and enter the treasure-house of literature and science. Whatever his fellow-men have done and recorded he can now learn by sufficient diligence of his own.

The difference between the part of education acquired in the family and that acquired in the school is immense and incalculable. The family arts and trades, manners and customs, habits and beliefs, form a sort of close-fitting spiritual vesture: a garment of the soul always worn, and expressive of the native character not so much of the individual as of his tribe or family or community. The individual has from his birth been shaped into these things as by a mould; all his thinking and willing and feeling have been moulded into the form or type of humanity looked upon as the ideal by his parents and acquaintances.

This close-fitting garment of habit gives him direction but not self-direction or freedom. He does what he does blindly, from the habit of following custom and doing as others do.

But the school gives a different sort of training,— its discipline is for the freedom of the individual. The education of the family is in use and wont and it trains rather than instructs. The result is unconscious habit and ungrounded prejudice or inclination. Its likes and dislikes are not grounded in reason, being unconscious results of early training. But the school lays all its stress on producing a consciousness of the grounds and reasons of things. I should not say all its stress; for the school does in fact lay much stress on what is called discipline,— on habits of alert and critical attention, on regularity and punctuality, and self-control and politeness. But the mere mention of these elements of discipline shows that they, too, are of a higher order than the habits of the family, inasmuch as they all require the exertion of both will and intellect consciously in order to attain them. The discipline of the school forms a sort of conscious superstructure to the unconscious basis of habits which have been acquired in the family.

School instruction, on the other hand, is given to the acquirement of techniques; the technique of reading and writing, of mathematics, of grammar, of geography, history, literature, and science in general.

One is astonished when he reflects upon it at first, to see how much is meant by this word technique. All products of human reflection are defined and preserved by words used in a technical sense. The words are taken out of their colloquial sense, which is a loose one except when employed as slang. For slang is a spontaneous effort in popular speech to form technical terms.

The technical or conventional use of signs and symbols enables us to write words and record mathematical calculations; the technical use of words enables us to express clearly and definitely the ideas and relations of all science. Outside of technique all is vague hearsay. The fancy pours into the words it hears such meanings as its feelings prompt. Instead of science there is superstition.

The school deals with technique in this broad sense of the word. The mastery of the technique of reading, writing, geography and history lifts the pupil into a plane of freedom hitherto not known to him. He can now by his own effort master for himself the wisdom of the race.

By the aid of such instruments as the family education has given him he cannot master the wisdom of the race, but only pick up a few of its results, such as the custom of his community preserves. By the process of hearsay and oral inquiry it would take the individual a lifetime to acquire what he can get in six months by the aid of the instruments which the school places in his hands. For the school gives the youth the tools of thought.

Immigrants to America in the colonial period laid stress on the establishment of schools. The ideas of Luther were echoed by reformers in Holland, Sweden, Switzerland and elsewhere. Education is called "the foundation of the commonwealth," in 1853, in a school law of Holland. At that time there was a stringent school law passed. In Sweden education was common before 1650, and every peasant's child was taught to read.

Boston, in 1635, voted a school and funds to support a master. Roxbury was quite active in the founding of free schools. Plymouth, Weymouth, Dorchester, Salem, Cambridge, and other towns had schools before 1650. A law of the general court of Massachusetts decreed that in every town the selectmen should prosecute those who refused to "train their children in learning and labor," and to impose a fine of 20 shillings on those who neglected to teach their children "so much learning as may enable them perfectly to read the English tongue."

Schools were established in the Connecticut colonies immediately after their settlement. The Rhode Island colonies had schools by 1650. In 1636 occurred the important vote of the general court of Massachusetts, setting apart four hundred pounds for the establishment of a college which was endowed two years afterward by John Harvard, receiving 1700 pounds and named from its benefactor. The public Latin school of Boston dates from 1635. Meanwhile in New York the Dutch had brought over their zeal for education. The Dutch West India company, in 1621, charged its colonists to maintain a clergyman and a schoolmaster. It seems that in 1625 the colonial estimate included a clergyman at 1440 florins, and a schoolmaster at 360 florins. In 1633 the first schoolmaster arrived — Adam Roelandson. His name is revered like that of Ezekiel Cheever and Philomon Purmont, schoolmasters of early Boston.

As regards common schools in Virginia, the opinion of the royal governor, Berkeley, is often quoted: "I thank God there be no free schools nor printing-presses, and I hope we shall not have them these hundred years; for learning has brought disobedience and heresy and sects into the world, and printing has divulged them and libels against the best of governments: God keep us from both." The governor of the Connecticut colony answered to a question (apparently of the commissioners of foreign plantations): "One-fourth of the annual revenue of this colony is laid out in maintaining free schools for the education of our children."

A propos to this utterance of Berkeley, against whom the more progressive spirit of Virginia arose in rebellion in 1676, there should be quoted a more noteworthy sentence from the Virginian, Thomas Jefferson, who wrote (to J. C. Cabell) in 1818: "A system of general instruction which shall reach every description of our citizens from the richest to the poorest, as it was my earliest, so shall it be the latest of all the public concerns in which I shall permit myself to take an interest."

In 1647 the Massachusetts general court passed what has become the most celebrated of the early school laws of the colonies. In it occurs the often-quoted passage: "To the end that learning may not be buried in the graves of our forefathers, * * * it is ordered that every township within this jurisdiction * * * of the number of fifty households shall appoint one within their town to teach all such children as shall resort to him to write and read, whose wages shall be paid either by the parents or masters of such children, or by the inhabitants in general * * * further ordered that any town * * * of one hundred * * * householders * * * shall set up a grammar school, the master thereof being able to instruct youths so far as they may be fitted for the university." This law attached a penalty to its violation. "Grammar" meant Latin grammar at that period.

New Jersey established schools as early as 1683, and an example of a permanent school fund is found in an appropriation made that year. In 1693 a law compelled citizens to pay their shares for the maintenance of a school. In 1726 a clergyman from Pennsylvania established in New Jersey a classical school that grew in after times into Princeton college.

The original charter given William Penn required that the government of his colony should erect and aid public schools. Within 20 years after its settlement, schools were founded in Philadelphia, and others in towns of that colony.

The management of the district (elementary) schools began in most cases with the church and gradually came into the hands of the smallest political subdivision, known as "districts." Each township was divided into districts for school purposes, and for minor political purposes such as repair of the public highways. Each district contained an average of four square miles, with a schoolhouse near the center of population, usually a little distance from some village, and holding a maximum of forty or fifty pupils. The school committee employed teachers. The schools held a three months' session in the winter, and sometimes this was made four months. The winter school was nearly always "kept" by a man. There might be a summer school for a brief session kept by a woman. Wages for the winter school, even as late as 1840, in the rural districts of New England, were six to ten dollars a month. The schoolmaster might be a young college student trying to earn money during his vacation to continue his course in college. More commonly he was a surveyor, or clerk, or a farmer who had a slender store of learning but who could "keep order." He possessed the faculty to keep down the boisterous or rebellious pupils and could hear the pupils recite their lessons memorized by them from the book.

There were in some places school societies, semi-public corporations, that founded and managed the schools, receiving more or less aid from the public funds. Such associations provided much of the education in New York, Philadelphia, and in many parts of New England before the advent of the public school.

When the villages began to catch the urban spirit and establish graded schools with a full annual session, there came a demand for a higher order of teacher, the professional teacher, in short. This caused a comparison of ideals;

the best enlightened in the community began an agitation of the school question, and supervision was demanded. In Massachusetts, where the urban civilization had made most progress, this agitation resulted in the formation of a state board of education in 1837, and the employment of Horace Mann as its secretary (June, 1837). Boston had been connected with Providence, Worcester and Lowell by railroads before 1835, and in 1842 the first great trunk railroad had been completed through Springfield to Albany, opening to Boston a communication with the great west by the Erie canal and the newly completed railroad from Albany to Buffalo. This was the beginning of the great urban epoch in America that has gone on increasing the power of the city to this day.

The number of cities containing 8,000 inhabitants and upwards, was, in 1790, only six; between 1800 and 1810 it had increased to 11; in 1820 to 13; in 1830, 26; in 1840, 44; in the fifty years between 1840 and 1890 it increased from 44 to 443, or 10 times the former number. The urban population of the country in 1790 was, according to the superintendent of the census (see Bulletin No. 52, April 17, 1791), only one in 30 of the population; in 1840 it had increased to one in 12; in 1890, to one in three. In fact, if we count the towns on the railroads that are made urban by their close connection with the large cities, and the suburban districts, it is safe to say that now one-half of the population is urban.

Horace Mann came to the head of education in Massachusetts just at the beginning of the epoch of railroads and the growth of cities. He attacked with unsparing severity the evils of the schools as they had been. The school district system, introduced into Connecticut in 1701, into Rhode Island about 1750, and into Massachusetts in 1789, was pronounced by him to be the most disastrous feature in the whole history of educational legislation in Massachusetts.

Horace Mann extended his criticisms and suggestions to the examination of teachers and their instruction in teachers' institutes; to the improvement of school buildings; the raising of school funds by taxation; the creating of a correct public opinion on school questions; the care for vicious youth in appropriate schools. He discarded the hide-bound text-book method of teaching and substituted the oral discussion of the topic in place of the memorizing of the words of the book. He encouraged school libraries and school apparatus.

Horace Mann's influence founded the first normal school in the United States at Lexington (afterwards moved to Framingham), and a second one founded at Bridgewater in the fall of the same year (1839).

Inspired by the example in Massachusetts, Connecticut was aroused by Henry Barnard, who carried through the legislature the act organizing a state board of commissioners, and became himself the first secretary of it (1839). In 1849, Connecticut established a normal school. In 1843, Mr. Barnard went to Rhode Island and assisted in drawing up the state school law under which he became the first commissioner, and labored there six years.

These were the chief fermenting influences in education that worked a wide change in the management of schools in the middle and western states within the past fifty years.

Superintendents of city school systems began in 1837 with Buffalo. Providence followed in 1839; New Orleans in 1841; Cleveland in 1844; Baltimore in 1849; Cincinnati in 1850; Boston in 1851; New York, San Francisco and Jersey City in 1852; Newark and Brooklyn in 1853; Chicago and St. Louis in 1854; and finally Philadelphia in 1883.

State superintendents began with New York, 1813; New York was followed by 16 of the states before 1850. From 1851 to the civil war, eight states established the office of state superintendent; since then, nineteen other states, including 10 in the south, that had no state systems of education previously.

Normal schools in the United States increased from one, beginning in 1839 in Massachusetts, to 138 public and 46 private normal schools in 1889, with an attendance of upwards of 28,000 students preparing for the work of teaching. This would give a total of some twelve thousand a year of new teachers to meet the demand. It may be assumed, therefore, that less than one-sixth of the supply of new teachers comes from the training schools specially designed to educate teachers.

The history of education since the time of Horace Mann is very largely an account of the successive modifications introduced into elementary schools through the direct or indirect influence of the normal school.

PART VI — APPENDIXES

APPENDIX I — *Total number of pupils and students of all grades in both public and private schools and colleges, 1897–98*

NOTE.— The classification of states made use of in the following table is the same as that adopted by the United States census, and is as follows: *North Atlantic Division:* Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania. *South Atlantic Division:* Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida. *South Central Division:* Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Arkansas, and Oklahoma. *North Central Division:* Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas. *Western Division:* Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, and California.

DIVISION	Pupils receiving elementary instruction (primary and grammar grades)		Pupils receiving secondary instruction (high school grade)*a*		Students receiving higher instruction								
					In universities and colleges *c*			In schools of medicine, law, and theology *e*			In normal schools *g*		
	Public	Private (largely estimated)	Public *b*	Private (in preparatory schools, academies, seminaries, etc.)	Public *d*	Private	Total	Public *f*	Private	Total	Public	Private *h*	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
The United States.......	14 589 036	1 249 665	459 813	166 302	29 728	71 330	101 058	8 096	46 135	54 231	46 245	21 293	167 538
North Atlantic Division.......	3 472 716	510 286	143 977	50 635	5 072	26 667	31 739	254	17 366	17 620	19 470	1 724	21 194
South Atlantic Division.......	2 110 342	88 741	25 729	22 371	3 688	10 158	13 846	762	6 113	6 875	4 445	1 449	5 894
South Central Division........	2 842 478	143 872	34 658	32 473	2 815	10 795	13 610	1 099	4 668	5 767	2 999	4 265	7 264
North Central Division........	5 443 994	467 933	228 358	51 562	14 184	20 771	34 955	5 292	16 693	21 985	15 542	13 145	28 687
Western Division..............	719 506	38 833	27 091	9 261	3 969	2 939	6 908	689	1 295	1 984	3 789	710	4 499

Total number of pupils and students of all grades in both public and private schools, 1897–98—Continued

DIVISION	Summary of higher (including normal) instruction		Summary of pupils by grade			Summary according to control		Grand total
	Public	Private	Elementary	Secondary	Higher	Public	Private	
1	15	16	17	18	19	20	21	22
The United States	84 069	138 758	15 838 701	626 115	222 827	15 132 918	1,554 725	16 687 643
North Atlantic Division	24 796	45 757	3 983 002	194 612	70 553	3 641 489	606 678	4 248 167
South Atlantic Division	8 895	17 720	2 199 083	48 100	26 615	2 144 966	128 832	2 273 798
South Central Division	6 913	19 728	2 986 350	67 131	26 641	2 884 049	196 073	3 080 122
North Central Division	35 018	50 609	5 911 927	279 920	85 627	5 707 370	570 104	6 277 474
Western Division	8 447	4 944	758 339	36 352	13 391	755 044	53 038	808 082

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a Including pupils in preparatory or academic departments of higher institutions, public and private, and excluding elementary pupils, who are classed in columns 2 and 3.

b This is made up from the returns of individual high schools to the bureau, and is somewhat too small, as there are many secondary pupils outside the completely organized high schools whom there are no means of enumerating.

c Including colleges for women, agricultural and mechanical (land-grant) colleges and scientific schools. Students in law, theological, and medical departments are excluded, being tabulated in columns 9–11. Students in academic and preparatory departments are also excluded, being tabulated in columns 4 and 5.

d Mainly state universities and agricultural and mechanical colleges.

e Including schools of dentistry, pharmacy, and veterinary medicine.

f Mainly in schools or departments of medicine and law attached to state universities.

g Non-professional pupils in normal schools are included in columns 4 and 5.

h Private normal schools are, with few exceptions, scarcely superior to the ordinary secondary schools.

i There are, in addition to this number, 21,687 students taking normal courses in universities, colleges, and public and private high schools.

APPENDIX II — *Number of pupils enrolled in the common schools at various periods and the relation of the enrollment to the school population*

STATE OR TERRITORY	Number of different pupils enrolled during the school year (excluding duplicate enrollments)				Per cent of school population (*i. e.*, of children 5 to 18 years of age) enrolled			
	1870–71	1879–80	1889–90	1897–98	1870–71	1879–80	1889–90	1897–98
1	2	3	4	5	6	7	8	9
UNITED STATES	7 561 582	9 867 505	12 722 581	15 038 636	61.45	65.50	68.61	70.08
North Atlantic Division	2 743 344	2 930 345	3 112 622	3 614 463	77.95	75.17	70.45	70.38
South Atlantic Division	603 619	1 242 811	1 785 486	2 134 725	30.51	50.74	59.22	63.63
South Central Division	767 839	1 371 975	2 293 579	2 875 366	34.17	46.43	60.14	64.41
North Central Division	3 300 660	4 033 828	5 015 217	5 669 572	76.87	75.84	76.46	75.25
Western Division	146 120	288 546	515 677	744 510	54.77	64.96	70.01	76.73
North Atlantic Division								
Maine	*a* 152 600	149 827	139 676	134 405	*a* 87.35	89.80	85.88	83.35
New Hampshire	71 957	64 341	59 813	*b* 64 207	91.31	81.32	71.28	*b* 72.25
Vermont	*c* 65 384	75 238	*c* 65 608	65 532	....	87.21	....	79.53
Massachusetts	273 661	306 777	371 492	456 141	72.34	71.76	72.56	74.03
Rhode Island	*a* 34 000	40 604	52 774	65 384	*a* 59.24	59.59	62.65	64.33
Connecticut	113 588	119 694	126 505	147 833	80.83	76.97	72.02	72.72
New York	1 028 110	1 031 593	1 042 160	*b* 1 203 199	82.98	77.10	70.71	*b* 71.48
New Jersey	169 430	204 961	234 072	304 680	63.20	64.77	62.21	65.29
Pennsylania	834 614	937 310	1 020 522	1 173 082	76.35	74.37	69.53	67.83
South Atlantic Division								
Delaware	20 058	27 823	31 434	*d* 33 174	50.04	65.20	66.19	*d* 67.93
Maryland	115 683	162 431	184 251	236 003	46.70	58.13	60.37	67.16
District of Columbia	15 157	26 439	36 906	44 698	41.60	55.40	63.10	61.71
Virginia	131 088	220 736	342 269	*b* 367 817	32.34	45.00	60.51	*b* 63.19
West Virginia	76 999	142 850	193 064	236 188	49.47	69.21	75.27	81.10
North Carolina	*a* 115 000	252 612	322 533	399 375	*a* 31.23	55.87	56.39	64.41
South Carolina	66 056	134 072	201 260	*b* 258 183	27.28	40.56	47.08	*b* 54.55
Georgia	49 578	236 533	381 297	450 832	11.89	46.24	58.45	60.54
Florida	14 000	39 315	92 472	108 455	21.21	44.16	71.10	63.37
South Central Division								
Kentucky	*e* 178 457	*e* 276 000	399 660	*b* 501 893	....	....	65.64	*b* 76.00
Tennessee	*a* 140 000	300 217	447 950	*f* 481 585	*a* 32.00	58.21	74.05	*f* 74.97
Alabama	141 312	179 490	301 615	*b* 348 899	40.36	42.60	55.83	*b* 56.13

Mississippi	117 000	236 654	334 158	*b* 367 579	40.60	61.29	70.62	*b* 69.17
Louisiana	57 639	77 642	120 253	182 341	24.78	25.87	31.58	39.76
Texas	63 504	*a* 220 000	466 872	*b* 612 140	21.00	*a* 42.40	59.50	*b* 61.84
Arkansas	69 927	81 972	223 071	303 808	40.29	30.81	55.41	65.75
Oklahoma	....	....	....	77 121	....	....	....	78.96
North Central Division								
Ohio	719 372	729 499	797 439	810 285	84.04	76.69	76.54	72.92
Indiana	450 057	511 283	512 955	566 157	78.64	82.39	79.21	84.82
Illinois	672 787	704 041	778 319	939 163	81.01	74.61	71.97	66.25
Michigan	292 466	362 556	427 032	496 025	79.66	78.08	73.45	79.25
Wisconsin	265 285	299 457	351 723	435 914	73.92	73.78	69.77	69.25
Minnesota	113 983	180 248	280 960	384 063	75.92	75.87	74.59	75.18
Iowa	341 938	426 057	493 267	548 852	84.44	83.52	85.51	86.62
Missouri	330 070	482 986	620 314	688 583	56.03	68.85	74.43	72.30
North Dakota	*a* 1 660	13 718	35 543	67 375	*a* 39.26	41.68	71.26	70.05
South Dakota			78 043	*f* 89 001			81.04	*f* 74.78
Nebraska	23 265	92 549	240 300	273 914	58.79	68.48	75.35	77.97
Kansas	89 777	231 434	399 322	370 240	74.22	73.23	88.56	88.20
Western Division								
Montana	1 657	4 270	16 980	35 070	70.24	63.77	71.14	78.94
Wyoming	*a* 450	2 907	7 052	13 042	*a* 45.34	77.44	54.46	54.46
Colorado	4 357	22 119	65 490	104 733	42.28	60.82	72.20	81.38
New Mexico	*a* 1 320	4 755	18 215	26 484	*a* 4.42	13.32	42.25	51.99
Arizona	....	4 212	7 989	14 613	....	53.16	52.72	66.09
Utah	16 992	24 326	37 279	70 878	53.36	50.61	55.26	82.45
Nevada	3 106	9 045	7 387	7 348	53.97	79.73	73.80	81.78
Idaho	906	5 834	14 311	29 737	46.06	77.85	62.66	69.88
Washington	*a* 5 000	14 780	55 964	97 916	*a* 69.00	72.36	70.58	91.42
Oregon	21 000	37 533	63 254	85 230	67.73	75.02	74.78	84.64
California	91 332	158 765	221 756	259 459	63.63	73.37	77.38	73.17

a Approximately
b In 1896–97
c Pupils of legal age only
d In 1891–92
e Highest number enrolled
f In 1895–96

APPENDIX III — *Common school statistics of the United States*

	1870–71	1879–80	1889–90	1897–98 *a*
I — *General statistics*				
Total population	39 500 500	50 155 783	62 622 250	72 737 100
Number of persons 5 to 18 years of age	12 305 600	15 065 767	18 543 201	21 458 294
Number of different pupils enrolled on the school registers	7 561 582	9 867 505	12 722 581	15 038 636
Per cent of total population enrolled	19.14	19.67	20.32	20.68
Per cent of persons 5 to 18 years of age enrolled	61.45	65.50	68.61	70.08
Average daily attendance	4 545 317	6 144 143	8 153 635	10 286 092
Ratio of same to enrollment	60.1	62.3	64.1	68.4
Average length of school term (days)	132.1	130.3	134.7	143.1
Aggregate number of days attended	600 432 802	800 719 970	1 098 232 725	1 471 435 367
Average number for each person 5 to 18 years of age	48.7	53.1	59.2	68.6
Average number for each pupil enrolled	79.4	81.1	86.3	97.8
Male teachers	90 293	122 795	125 525	131 750
Female teachers	129 932	163 798	238 397	277 443
Whole number of teachers	220 225	286 593	363 922	409 193
Per cent of male teachers	41.0	42.8	34.5	32.2
Average monthly wages of teachers:				
Males	....	....	....	*b* $45 16
Females	....	....	....	*b* $38 74
Number of schoolhouses	132 119	178 222	224 526	242 390
Value of school property	$143 818 703	$20 9571 718	$342 531 791	$492 703 781
II — *Financial statistics*				
Receipts:				
Income from permanent funds	....	....	$7 744 765	$9 213 323
From state taxes	....	....	26 345 323	35 600 643
From local taxes	....	....	97 222 426	134 104 053
From all other sources	....	....	11 882 292	20 399 578
Total receipts	....	....	$143 194 806	$199 317 597
Per cent of total derived from —				
Permanent funds	....	....	5.4	4.6
State taxes	....	....	18.4	17.9
Local taxes	....	....	67.9	67.3
All other sources	....	....	8.3	10.2
Expenditures:				
For sites, buildings, furniture, libraries, and apparatus	....	....	$26 207 041	$32 814 532
For salaries of teachers and superintendents	$42 580 853	$55 942 972	91 836 484	123 809 412
For all other purposes	....	....	22 463 190	37 396 526
Total expenditures	$69 107 612	$78 094 687	$140 506 715	$194 020 470
Expenditure per capita of population	1.75	1.56	2.24	2.67
Expenditure per pupil (of average attendance):				
For sites, buildings, etc	....	....	$3.21	$3.19
For salaries	$9.37	$9.10	11.26	12.04
For all other purposes	....	....	2.76	3.63
Total expenditure per pupil	$15.20	$12.71	$17.23	$18.86
Per cent of total expenditure devoted to —				
Sites, buildings, etc	....	....	18.6	16.9
Salaries	61.6	71.6	65.4	63.8
All other purposes	....	....	16.0	19.3
Average expenditure per day for each pupil (in cents):				
For tuition	7.1	7.0	8.4	8.4
For all purposes	11.5	9.7	12.8	13.2

a The figures for 1897–98 are approximate.

b In 44 states.

APPENDIX IV — *Statistics of state common school systems, 1897–98*

STATE OR TERRITORY	Pupils enrolled	Average number of pupils attending school each day	Average number of days the schools were kept during the year	Teachers			Estimated value of all school property	Total expenditure during 1897–98
				Male	Female	Total		
UNITED STATES	15 038 636	10 286 092	143.1	131 750	277 443	409 193	$492 703 781	$194 020 470
North Atlantic Division	3 614 463	2 587 468	174.5	19 231	80 732	99 963	198 197 537	75 902 063
South Atlantic Division	2 134 725	1 314 622	112.7	20 199	26 605	46 804	22 266 065	12 163 944
South Central Division	2 875 366	1 870 510	98.6	31 317	29 167	60 484	21 760 411	13 219 921
North Central Division	5 669 572	3 996 895	152.4	54 911	124 442	179 353	211 848 908	78 157 540
Western Division	744 510	516 597	151.8	6 092	16 497	22 589	38 630 860	14 577 002
North Atlantic Division								
Maine	134 405	97 616	137.	1 257	5 470	6 727	4 225 401	1 614 330
New Hampshire	64 207	47 717	134.6	202	2 509	2 711	3 284 121	1 040 309
Vermont	65 532	48 060	154.	389	2 397	2 786	1 800 000	933 424
Massachusetts	456 141	349 147	186.	1 174	12 029	13 203	39 077 405	13 653 649
Rhode Island	65 384	47 370	191.	193	1 659	1 852	4 579 334	1 717 492
Connecticut	147 833	105 002	188.8	373	3 570	3 943	9 879 922	2 986 163
New York	1 203 199	827 652	176.	5 461	28 924	34 385	71 832 511	28 588 871
New Jersey	304 680	200 278	185.	834	5 442	6 276	14 601 840	5 723 424
Pennsylvania	1 173 082	864 626	159.4	9 348	18 732	28 080	48 917 003	19 644 401
South Atlantic Division								
Delaware	33 174	22 693	160.	218	622	840	904 426	275 000
Maryland	236 003	134 539	182.	1 144	3 843	4 987	4 500 000	2 709 104
District of Columbia	44 698	34 383	185.	148	959	1 107	3 750 000	1 251 655
Virginia	367 817	213 421	120.2	3 013	5 562	8 575	3 090 777	1 827 003
West Virginia	236 188	159 768	111.	4 096	2 712	6 808	3 471 697	2 046 623
North Carolina	399 375	214 540	68.8	3 695	3 522	7 217	970 675	931 143
South Carolina	258 183	182 559	83.2	2 245	2 728	4 973	845 596	697 068
Georgia	450 832	278 715	116.9	4 519	4 986	9 505	3 977 070	1 758 106
Florida	108 455	74 004	104.	1 121	1 671	2 792	755 824	668 242
South Central Division								
Kentucky	501 893	308 697	115.4	4 909	5 051	9 960	5 448 814	2 650 190
Tennessee	481 585	338 176	90.2	5 121	4 014	9 135	3 133 780	1 690 750
Alabama	348 899	222 690	80.1	4 741	2 778	7 519	1 500 000	800 273
Mississippi	367 579	223 900	101.6	3 649	4 254	7 903	1 636 055	1 165 840
Louisiana	182 341	132 046	106.3	1 362	2 472	3 834	1 066 000	956 888

APPENDIX IV—*Statistics of state common school systems, 1897–98*—Continued

STATE OR TERRITORY	Pupils enrolled	Average number of pupils attending school each day	Average number of days the schools were kept during the year	Teachers			Estimated value of all school property	Total expenditure during 1897–98
				Male	Female	Total		
Texas	612 140	404 372	106.	6 179	6 774	12 953	6 081 356	4 320 271
Arkansas	303 808	191 447	69.	4 515	2 558	7 073	2 294 397	1 220 362
Oklahoma	77 121	49 182	86.3	841	1 266	2 107	600 000	415 347
Indian Territory	....	....	....	....	....	....	....	....
North Central Division								
Ohio	810 285	618 667	162.	10 358	14 898	25 256	41 428 289	12 563 949
Indiana	566 157	432 931	144.	7 197	8 026	15 223	21 536 212	7 846 139
Illinois	939 163	729 227	158.7	6 718	18 549	25 267	43 705 943	16 468 055
Michigan	496 025	347 714	160.8	3 625	12 048	15 673	18 138 589	6 281 003
Wisconsin	435 914	287 000	160.	2 654	9 811	12 465	14 800 000	5 132 063
Minnesota	384 063	243 200	156.	2 304	8 939	11 245	14 559 564	4 893 678
Iowa	548 852	370 845	162.	5 855	22 839	28 694	17 450 534	8 451 504
Missouri	688 583	440 692	141.7	5 951	9 315	15 266	16 718 410	6 248 961
North Dakota	67 375	41 155	122.	1 115	2 522	3 637	2 132 738	1 288 031
South Dakota	89 001	54 600	138.4	1 321	3 187	4 508	2 920 744	1 280 663
Nebraska	273 914	173 930	131.	2 433	7 175	9 608	8 943 924	3 712 017
Kansas	370 240	256 932	124.3	5 380	7 133	12 513	9 504 961	3 991 477
Western Division								
Montana	35 070	23 400	149.2	201	885	1 086	1 857 964	776 150
Wyoming	13 042	8 700	110.	102	434	536	441 460	213 291
Colorado	104 733	69 973	159.7	744	2 238	2 982	5 987 703	2 341 311
New Mexico	26 484	16 950	96.6	333	270	603	281 000	154 532
Arizona	14 613	9 011	130.	156	279	435	472 108	229 323
Utah	70 878	49 638	157.	502	837	1 339	2 652 595	1 047 174
Nevada	7 348	4 982	154.	40	274	314	265 011	203 642
Idaho	29 737	21 528	100.	324	524	848	597 718	274 377
Washington	97 916	64 192	148.0	1 033	2 288	3 321	4 977 679	1 795 795
Oregon	85 230	62 799	123.9	1 250	2 443	3 693	3 748 154	1 274 937
California	259 459	185 424	172.4	1 407	6 025	7 432	17 349 468	6 266 470

APPENDIX V — *Corporal punishment*

In one state, New Jersey, the teacher is forbidden by law to inflict corporal punishment. No other state goes to this length, but Illinois, Kansas, Mississippi, Montana, Pennsylvania, South Dakota, Washington, and West Virginia specifically prescribe a penalty for excess amounting to cruelty. Legal punishment would be meted out to a brutal teacher in the other states just as surely as in these, but resort would be had to the common law and not to a statute. Only in Arizona is there formal statutory authority for corporal punishment, but whipping has been the common mode of discipline in school from time immemorial; custom legalizes it, and unless forbidden in express terms the teacher does not need the authority of a special permissive law. Judicial decisions to this effect have been made in Alabama, Arkansas, Connecticut, Indiana, Iowa, Maine, Minnesota, North Carolina, Pennsylvania, Wisconsin, and probably in other states.

Local school boards have always the implied power to make regulations for the order and discipline of their respective schools, and three states, viz., Michigan, New York, and Pennsylvania, expressly grant them this power. Acting under this power, expressed or implied, several cities, notably New York city, Chicago, and Albany, have prohibited absolutely the use of the rod. The same is true of Providence, Rhode Island, except in the primary grades, and in them whipping must not be inflicted unless the written consent of the parent or guardian has been previously filed with the city superintendent.

Corporal punishment may be used as a last resort and under rigid regulations as to reports, etc., in a great many cities, among them being Baltimore, Detroit, Indianapolis, Louisville, Minneapolis, New Orleans, Pittsburg, Rochester, St. Louis, San Francisco, Worcester, and Philadelphia.

APPENDIX VI — *Teachers' pensions, and benefit associations*

Voluntary mutual benefit associations for temporary aid only exist in Baltimore, St. Louis, Cincinnati, Cleveland, Detroit, Chicago, Buffalo, San Francisco, St. Paul, and one interstate. These have from one to two dollars initiation fee, one to five dollars annual dues. Special assessments of one dollar each are made in some cases. Benefits in sickness range from fifty cents a day to ten dollars a week; at death funeral expenses only are paid in some instances, and in others a sum equal to one dollar from each member of the association.

Associations for annuity or retirement fund only are in New York city, Boston, and Baltimore, and there is an annuity guild in Massachusetts. The initiation fees reported are three to five dollars; the annual dues one to one and a half per cent of salary up to eighteen or twenty dollars. The annuity is from 60 per cent of salary to $600 a year. Time of service required for retirement, from 2 to 5 years with disability, from 35 to 40 years without disability.

Associations for both temporary aid and annuity exist in Hamilton county (Cincinnati), Ohio; Philadelphia, Brooklyn, and District of Columbia. Initiation fees, one to ten dollars; annual dues, five to forty dollars; annuity, five dollars per week to $600 a year, and $100 for funeral expenses in case of death; temporary aid during illness, five or six dollars per week; minimum service for retirement — with disability, 3 to 5 years; without disability, 35 to 40 years.

Pension or retirement funds are authorized by state legislation for St. Louis, all cities in California, Brooklyn, New York, Detroit, Chicago, New York city, all cities in New Jersey, Cincinnati, and Buffalo. Dues, one per cent of salary; annuity, $250 to one-half of salary; minimum, $300, to $1,200 maximum; minimum service — with disability, 20 to 35 years; without disability, 25 to 35 years.

APPENDIX VII — *United States railroad mileage; census years 1830–90*

	1890	1880	1870	1860	1850	1840	1830
Miles of line................	163 562.12	87 724.08	49 168.33	28 919.79	18 571.48	2 755.18	39.80
Miles per 10,000 population.	26.12	17.49	12.75	9.20	3.71	1.61	.03

APPENDIX VIII — *Text-books; selection and supply.*

In a few states text-books do not form a specific subject of legislation, but local boards have control under the general charge of the welfare of the schools.

In most states legislation regulates the selection of text-books.

In some states a guaranty is required from publishers to supply books, according to samples, at wholesale, retail, introduction, exchange, mail prices, part or all, for a term of years.

In fewer states the school boards buy and sell the books on public account. In certain states boards continue to own the books used free by pupils. Indigent pupils are more frequently supplied at public expense.

In most states special or general laws give cities the control of the details of their school administration, including text-books.

Specific penalties are expressed in certain cases for using other than prescribed books, but in general such use would be only a violation of law, to be dealt with as it occurred.

State superintendent is here used to indicate the chief officer of the state schools.

In the states immediately following, individuals, except indigents, buy their books:

Arizona.— The lists are fixed for 4 years by territorial board.

Arkansas.— The list is fixed for 3 years, with exceptions, by local board, from books recommended by state superintendent.

California.— The state prepares, publishes, and sells books for primary and grammar schools, but high schools supported wholly by local effort are almost free of the law. Penalty for using other than the state list, forfeiture of one-fourth the apportionment from state funds. Indigent pupils are furnished free.

Georgia.— County board fixes list. Unchanged within 5 years except by a three-fourths vote of the full board. Penalty, teacher cannot receive pay from pupils using other books.

Indiana.—A state board selects books under publishers' guaranty. County boards may fix a list of additional books for high schools for 6 years. Books are bought and sold by, or subject to, arrangement of local board, and become private property. Districts supply indigents.

Illinois.— District board fixes list for 4 years. Indigents supplied free.

Kentucky.— County board of examiners fixes list for 5 years, with publishers' guaranty. The county judge furnishes indigents.

Louisiana.— State board fixes list for 4 years, with limited local discretion.

Mississippi.— The county school board adopts a series of books for 5 years on publishers' guaranty. Penalty, pupils without the prescribed books in any branch are not to receive instruction in that branch.

Missouri.—A state school-book commission fixed a list, with publishers' guaranty, for 5 years from September 1, 1897, to be handled through dealers. Indigents are supplied from local contingent funds.

Nevada.— State board fixes list for 4 years. Penalty, forfeiture of apportionment. District furnishes indigents.

New Mexico.— The territorial board of education is authorized to fix a list for 4 years and to contract with publishers and sell to counties. Districts furnish indigents.

North Carolina.— County board fixes list for 3 years, with publishers' guaranty.

Ohio.— A state commission fixes a list on publishers' guaranty, from which local boards fix lists for 5 years (with exception). Boards may buy and sell to pupils or arrange with dealers to supply them. Indigents are furnished.

Oklahoma.— Territorial superintendent fixes a list for 5 years on publishers' guaranty.

Oregon.— State board fixes a list for 6 years on publishers' guaranty.

South Carolina.— State board fixes a list for 5 years on publishers' guaranty, and may require publishers to have depositaries in each county, or county boards may furnish books at cost.

Tennessee.— County superintendent suggests suitable books.

Texas.— The law resembles that of Missouri. Penalty, upon any teacher or trustee, $10 to $50 for each offense. Every day of violation of law to be considered a separate offense.

Virginia.— Two books of John Esten Cooke — Virginia, a History of Her People; Stories of the Old Dominion — are prescribed by law. State board fixes a list.

West Virginia.— A contract list for 5 years is part of the law of 1896, with exceptions. County school book boards are established by act of 1897. Publishers keep books with local depositaries on account of district building fund. Penalty, on every officer or teacher, $3 to $10 for each offense.

Wyoming.— A convention of superintendents fixes a list for 5 years.

The states following, regularly or through stated action, authorize provision for free use of books by pupils:

Colorado.— District boards fix list for 4 years, with exceptions. Indigents are furnished and, on popular vote, all pupils, free.

Connecticut.— State board may fix list for 5 years. Town boards may take additional action and, on popular vote, furnish free text-books.

Delaware.— State board fixes list; district board furnishes free text-books.

Idaho.— Books adopted by a state board of text-book commissioners for all common, graded, and high schools are furnished free by the district; under contracts with publishers for 6 years.

Iowa.— Local boards may buy and sell to pupils at cost. County uniformity can be fixed for 5 years. Text-books are furnished free to indigents, and, on popular vote, to all, by the district.

Kansas.— A school text-book commission (1897) has selected text-books in common-school studies for five years and contracted with publishers to furnish them to pupils through agencies at every county seat. On popular vote, with a two-thirds majority, school boards may purchase books and furnish their use free to pupils. Penalty for using other text-books, except for reference, $25 to $100, with or without imprisonment.

Maine, *New Hampshire*, *Massachusetts*, *Rhode Island* (towns), *New Jersey*, *Pennsylvania* (local boards), *Maryland* (counties), furnish free text-books.

Michigan.— District boards furnish books to indigents, and, on popular vote, to all pupils, free.

Minnesota.— Local boards may fix a list for 3 to 5 years, with publishers' guaranty, and may purchase and provide for loan free or for sale at cost to pupils.

Montana.— A state board of text-book commissioners fixed a list for 6 years to be handled through dealers, with publishers' guaranty. Upon vote of a district, free text-books are furnished.

Nebraska.— Local boards furnish books free; may fix list with publishers' guaranty not beyond 5 years. A local dealer may be designated to handle the books on agreed terms.

New York.— Every union free school board is "to prescribe the text-books * * * and to furnish the same out of any money provided for the purpose."

Common-school districts, by popular vote, may furnish indigent pupils.

North Dakota.— Local boards may furnish free text-books, and must on popular vote. Contracts must be for 3 to 4 years without change.

South Dakota.— A county board of education is required to adopt a uniform series for 5 years, to be furnished through designated depositaries under publishers' guaranty. On petition of a majority of electors, a school corporation must arrange for free text-books.

Utah.— A convention of superintendents fixes a list, except for cities, for 5 years, on publishers' guaranty. Penalty, on teacher, loss of eligibility. Boards of education are authorized to furnish free text-books, and, in cities, to select books.

Vermont.— County authority fixes a list for 5 years on publishers' guaranty. On popular vote, local boards furnish free text-books.

Washington.— The state board of education fixes a list for 5 years on publishers' guaranty. Penalty, on district, forfeiture of one-fourth the apportionment. Local boards furnish indigents, and, on popular vote, all pupils.

Wisconsin.— District board fixes list for 3 years. Penalty on every member of the board, $50. On popular vote, books are furnished free without time limitation as to change.

APPENDIX IX—*Average total amount of schooling (expressed in years of 200 school days each) each individual of the population would receive as his equipment for life, under the conditions existing at the different dates given in the table, and counting in the work done by all grades of both public and private schools and colleges*

	1870	1880	1890	1891	1892	1893	1894	1895	1896	1897	1898
United States…………	3.36	3.96	4.46	4.51	4.49	4.52	4.72	4.75	4.83	4.91	5.01
North Atlantic Division……	5.06	5.69	6.05	6.15	6.18	6.10	6.35	6.47	6.52	6.64	6.76
South Atlantic Division……	1.23	2.22	2.73	2.78	2.74	2.79	2.95	2.95	2.93	3.05	3.14
South Central Division…….	1.12	1.86	2.42	2.62	2.69	2.64	2.89	2.65	2.70	2.75	2.95
North Central Division ……	4.01	4.65	5.36	5.35	5.21	5.38	5.57	5.69	5.84	5.87	5.87
Western Division …………	3.56	4.17	4.57	4.72	5.07	4.93	5.01	5.43	5.46	5.55	5.77

Average total amount of schooling per inhabitant, etc., considering only the public elementary and secondary schools, and expressed as before in years of 200 school days each

	1870	1880	1890	1891	1892	1893	1894	1895	1896	1897	1898
United States…………	2.91	3.45	3.85	3.93	3.97	3.99	4.17	4 23	4.28	4.37	4.46
North Atlantic Division ……	4.43	4.84	4.99	5.06	5.10	5.10	5.28	5.47	5.52	5.61	5.71
South Atlantic Division……	.80	1.90	2.42	2.46	2.46	2.51	2.70	2.68	2.66	2.78	2.87
South Central Division…….	.80	1.57	2.20	2.31	2.41	2.38	2.59	2.59	2.44	2.49	2.68
North Central Division ……	3.71	4.19	4.67	4.74	4.75	4.84	5.00	5.15	5.21	5.28	5.25
Western Division …………	2.77	3.57	3.98	4.16	4.47	4.39	4.45	4.87	4.95	5.02	5.25

NOTE.—The figures of this table for the years previous to the current year have been revised and differ slightly from those heretofore published.

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MONOGRAPHS ON EDUCATION
IN THE
UNITED STATES

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SECONDARY EDUCATION

BY

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SECONDARY EDUCATION

One could not expect to find distinctively American institutions among the colonists of the seventeenth century. There was as yet no distinctively American character. Two opposing influences were at work shaping the colonial life: the first was the spirit of protest against European institutions, which many of the colonists had brought with them from the Old World; the second was the ever-present instinct of imitation. Real American schools might be expected to develop with the development of real American nationality. In the beginning, there could be only such schools as might arise under the mingled influence of a desire to be like the mother-country and a desire to be different.

We find, as a matter of fact, the history of American secondary education presenting three pretty well-defined types and stages of development. There is, first, the colonial period, with its Latin grammar schools; secondly, the period extending from the revolutionary war to the middle of the nineteenth century, during which the attempt was made to solve the problem of American secondary education by means of the so-called academy; and, thirdly, the succeeding period down to the present time, chiefly characterized by the upgrowth of public high schools.

The specific influences which most vitally influenced the early development of secondary education in America were, on the one hand, the example of the "grammar schools" of old England; and, on the other hand, the rising spirit of democracy, in large measure Calvinistic as to its modes of thought, and in touch with movements in the Calvinistic portions of Europe.

THE BEGINNINGS

Early in the history of the colony of Virginia, funds were raised and lands set apart for the endowment of a Latin grammar school. But these promising beginnings were swept away by the Indian massacre of 1622, and the school seems never to have been opened. The town of Boston, in the Massachusetts Bay colony, set up a Latin school in 1635, which has had a continuous existence down to the present time. This school was established by vote of the citizens in a town meeting. It was supported in part by private donations, and in part by the rent of certain islands in the harbor, designated by the town for that purpose. A town rate seems also to have been levied when necessary to make up a salary of £50 a year for the master.

Other Massachusetts towns soon followed the example of Boston. The money for the support of these schools was obtained in a variety of ways. School fees were commonly but not universally collected. A town rate, which was depended upon at first only to supplement other sources of revenue, gradually came to be the main reliance; and by the middle of the eighteenth century the most of the grammar schools of Massachusetts charged no fee for tuition.

Latin schools were early established in the colonies included in the territory of the present state of Connecticut: one at New Haven in 1641, and one at Hartford not later than 1642. A notable bequest left by Edward Hopkins, sometime governor of Connecticut colony, whose later years were passed in England, became available soon after the middle of the seventeenth century. The greater part of it was devoted to the maintenance of Latin grammar schools in Hartford and New Haven, and also in the towns of Hadley and Cambridge in Massachusetts.

The Dutch at New Amsterdam — now New York — opened a Latin school in 1659. This school was continued for some years after the colony passed under English rule. Secondary schools were established in the colony of Pennsylvania in the latter part of the seventeenth century. One of these, the William Penn Charter School, at Philadelphia, has continued down to the present day. King William's school, at Annapolis, was erected by the legislature of Maryland in 1696. Similar schools were from time to time established in different sections of the same colony. The eighteenth century saw schools of like character opened, partly by legislative enactment, partly by private initiative, in these and in the remaining colonies. Some of the number, like the University Grammar School in Rhode Island and the Free School at New York, were either the forerunners or the accompaniments of colonial colleges.

Not only were these several schools opened during the colonial period: important beginnings were made also in the organization of colonial systems of secondary education. The Puritan colony of Massachusetts took the lead in this movement. In 1647 the colonial legislature decreed that an elementary school should be maintained in every town having a population of fifty families; and that in every town having one hundred families there should be a grammar school, in which the students might be fitted for admission to the university.

This liberal provision was soon copied by the neighboring colonies of Connecticut and New Hampshire. In Connecticut the provision was afterwards changed to a requirement of a grammar school in each county town. These New England colonies maintained and enforced such provisions regarding grammar schools, with varying degrees of strictness, to be sure, down to and even after the revolutionary war. Maryland established by law a system of county grammar schools, thus keeping pace with the more northern colony of Connecticut.

The interest in secondary education declined and many schools fell into decay as the revolutionary period approached. When the colonies were transformed into states, after the declaration of independence, the four systems of schools mentioned above were continued with little change. No other of the thirteen states had anything that could be called a system of public instruction.

COLONIAL SCHOOLS

The chief emphasis in these schools was laid on the preparation of future collegians to pass the college entrance examination. The most of the schools were in this sense "preparatory" or "fitting" schools. The requirements for admission to college determined their course of study. In the middle of the seventeenth century, the requirements of Harvard college, which fixed the scholastic standard for New England, are stated as follows: "When scholars had so far profited at the grammar schools that they could read any classical author into English, and readily make and speak true Latin, and write it in verse as well as prose; and perfectly decline the paradigms of nouns and verbs in the Greek tongue, they were judged capable of admission in Harvard college." A century later, the requirements of Princeton college, which profoundly influenced the secondary schools of the middle states, were described in these words: "Candidates for admission into the lowest or freshman class must be capable of composing grammatical Latin, translating Virgil, Cicero's Orations, and the four Evangelists in Greek; and by a late order * * * must understand the principal rules of vulgar arithmetic."

The colonial grammar schools taught accordingly Latin, and a little Greek. They gave instruction in religion; but little else was added to the classical languages.

Social grades were pretty sharply distinguished in the colonies. The grammar schools and colleges were intended especially for the directive and professional classes. They had little if any connection with such elementary schools as there were. In Massachusetts, towns which maintained grammar schools were not required to maintain reading schools. Sometimes pupils were taught to read in grammar schools. But the grammar school teachers objected to this burden; and the mixing of the two grades of instruction in one school was recognized as an evil. There seems to have been no middle grade of school, answering to the needs of a middle class in society. And for girls there was no provision whatever beyond occasional instruction in the merest rudiments of learning.

In the colleges, the ecclesiastical spirit and purpose was paramount. The students were for the most part preparing for the clerical vocation in some one of the Protestant denominations. But naturally only a part of the students in the grammar schools showed the disposition and the aptitude to pursue classical studies and enter the profession to which they led. The grammar schools exercised a kind of selective function, discovering latent capacity for the higher studies and starting talented youth on the way to college. Those who showed capacity of a lower grade or of a different sort seem to have received but little attention or encouragement in the schools of that day.

A TIME OF TRANSITION

As we approach the revolutionary period, we find new social conditions giving rise to a new order of schools. In the earlier days there had been, in most of the colonies, a close connection between ecclesiastical and political functions. With the growth of sectarian differences, there appeared a decided tendency toward the separation of governmental from ecclesiastical affairs. The grammar schools and colleges had been established for the public good as represented in both church and commonwealth. They had been founded and maintained by a remarkable combination of governmental, ecclesiastical, and private agency. Some of the colonies must be reckoned among the foremost of modern societies to exemplify direct governmental participation in educational affairs. But as governmental and ecclesiastical interests drew apart, the position of educational institutions was disturbed. This change tended to lessen the prestige of colonial systems of education among the more zealous adherents of the several religious denominations. At the same time, a growing distrust of the colleges appeared among those who were most in accord with the secularizing tendency of the time. These influences combined with many others to weaken the old grammar schools. In their stead there grew up a new type of secondary school, commonly known as the *academy*. For two or three generations following the revolutionary period this type was in the ascendancy. The effort to solve the problem of secondary education by this means ultimately failed. But the academy nevertheless occupies a place of great significance in the history of our educational institutions.

THE ACADEMIES

Both the name and the character of the new institution were suggested by English precedents. In England, dissenters from the established religion were excluded from both grammar schools and universities. In the latter part of the seventeenth century, following a suggestion of Milton, the non-conformist bodies proceeded to establish so-called academies. These schools were in the main of secondary grade. Yet they undertook to prepare candidates for the clerical office in non-conformist congregations; and they offered a wide range of literary and scientific studies, in free imitation of the universities. They even afforded instruction in some studies, chiefly of a technical and practical character, not commonly taught in the universities.

The American colonists were, many of them, in close relations with various bodies of English dissenters; and the fame of the English academies would seem to have influenced their thought in the matter of public education. At one time, the strong theological bent of their English prototypes reappeared in the new American schools; at another time, the resemblance was more obvious in the range and character of the studies offered. But the American academies soon came to have a well-defined character of their own, apart from any conscious imitation of English models.

As early as the year 1726, a school for classical and theological studies was established by the pastor of a Presbyterian congregation at Neshaminy, in Pennsylvania. It was described by a visitor as an "academy"; but was more commonly known as the "Log College," in allusion to the fact that it was conducted in a small building made of logs. This school in the wilderness was the center of deep and widespread interest in classical studies as well as in the religious life. It sent out large numbers of zealous pastors and teachers, who established "log colleges" all over the highlands of the middle and southern colonies.

Through the efforts of Benjamin Franklin, a school was established at Philadelphia, legally incorporated as an academy in 1753, which was probably the first institution in America to be formally designated by that title. It was under the control of a self-perpetuating board of trustees. A fund was raised by private subscription for its establishment and maintenance. This was supplemented by a grant from the city treasury and by tuition fees. But fees were remitted in the case of those who were unable to pay. This academy was organized in three departments or schools; viz., the Latin, the English, and the mathematical. The theological element was not prominent here. Much stress was laid on the teaching of the English language and literature, and the mathematical sciences. The school ultimately developed into the University of Pennsylvania.

Within two or three decades from the founding of this school at Philadelphia, a number of schools somewhat similar in character, and some of them bearing the name *academy*, were established in the middle and southern colonies. The new movement received fresh incentive and definiteness of direction from the establishment of the two Phillips academies, one at Andover in Massachusetts and the other at Exeter in New Hampshire, incorporated, the former in 1780 and the latter in 1781. These schools, well endowed, and conducted under self-perpetuating boards of trustees, were the pioneers of a long line of similar establishments in New England. Their influence extended to remote states, especially in the growing west; and they rank to-day among the strongest and most influential of our secondary schools.

STATE SYSTEMS

Soon after the close of the revolutionary war, new state systems of education began to be established, in which special provision was made for secondary schools. The earliest and most remarkable of these was the University of the State of New York, erected in 1784 and remodeled in 1787. This institution is a notable example of the strong and increasing influence which French thought then exercised in American affairs. The conception of a university put forth by Diderot and others of the great French writers of the latter half of the eighteenth century, was first realized in the state of New York. The New York university embraced the whole provision for secondary and higher education within the state, with the exception of schools of a purely private character. It seems to have been intended at the outset to embrace elementary schools as well, but these were organized later under a separate administrative system. The university was placed under the control of a board of regents, consisting of the governor and the lieutenant-governor of the state, *ex officio*, together with nineteen others, elected by the state legislature. At first this board of regents had been identical with the board of trustees of Columbia college. But this arrangement was unsatisfactory for many reasons: because of the ecclesiastical character of the college, for one thing; and also because of the growing belief that the interests of the college were distinct from, if not opposed to, those of the new academies. The reorganization of 1787 accordingly made the board of regents a body distinct from the trustees of any institution included in the university. The trustees were to exercise control over their several institutions. But this control was made subject to the general and not at all rigorous supervision of the regents.

In 1813 the legislature of the state established a permanent fund known as the literature fund, the income of which was to be applied wholly to the support of secondary schools. The distribution of this fund was made subject to the control of the regents of the university.

This university set up by the state of New York appealed to the imagination of men by its comprehensiveness and novelty. It exercised great influence on later systems; but only one state and one territory seem to have modeled their scheme of public instruction after the New York pattern. An act of the legislature of Georgia, passed in 1785, provided that "All public schools instituted, or to be supported by funds or public moneys in this state, shall be considered as parts or members of the university." But the university of Georgia never realized the large and liberal plan proposed for it.

In the territory of Michigan, an act was passed in 1817 instituting a university of imposing character. The president and professors of this institution were empowered "to establish colleges, academies, schools, libraries, museums, athenæums, botanical gardens, laboratories and other useful literary and scientific institutions * * * throughout the various counties, cities, towns, townships, and other geographical divisions of Michigan." As may be supposed, this establishment existed mainly on paper. Yet it should be noted that before the act was repealed, in 1821, there had been opened under its provisions a college, a classical school, and several primary schools.

But although the comprehensive type of university organization was not widely adopted, there was a general desire in the early part of the nineteenth century to establish complete and well-rounded systems of public instruction. Primary education was still all too largely neglected. In the state systems which were from time to time devised, emphasis was laid at one time upon secondary schools, at another upon institutions of higher learning. Some of the best thought of our political leaders was devoted to the problem of devising systems which should meet the needs of our rapidly growing states in all of the several grades of instruction.

The legislature of Tennessee declared, in 1817, that, "Institutions of learning, both academies and colleges, should ever be under the fostering care of this legislature, and in their connection with each other form a complete system of education."

Even more significant is the provision of the constitution of Indiana, adopted in 1816, that, "It shall be the duty of the general assembly, as soon as circumstances will permit, to provide by law for a general system of education, ascending in regular gradation from township schools to a state university wherein tuition shall be gratis and equally open to all."

For the most part, however, actual state agency in secondary education was as yet limited to the subsidising of privately managed academies. In Massachusetts, the provision for grammar schools under town control was continued after the colony became a state. But the law was so changed that only the larger towns were left subject to this requirement. At the same time academies established by private initiative were endowed by the legislature with grants of public lands. The state assumed no control whatever over the academies which it thus subsidised.

In Kentucky, the state legislature granted six thousand acres of public lands to an academy in each county. In Pennsylvania, colleges and academies received financial aid from the state for many years, culminating in 1838 in a general state system of educational subsidies. Five years later, such aid was discontinued. In others of the states, the granting of state subsidies, in money or in lands, to secondary and higher schools, was customary for many years. For the most part, there is but little of system or consistency observable in the distribution of such aid; and the state-aided institutions were not subjected to any sort of state control.

CHARACTER OF THE ACADEMIES

The type of secondary school which grew up under these conditions demands closer consideration. The old academies were generally endowed institutions, organized under the control of self-perpetuating boards of trustees or of religious bodies. They were established for the most part to serve the need of a wide constituency and not merely of a single community. They were often located in small country places. Many of them made provision for boarders as well as for day pupils.

They were not intended in any especial or exclusive sense for the training of future members of the learned professions. Many of them, to be sure, as time went on, drew near to the colleges and became known primarily as preparatory schools. In the western states, colleges were often organized with preparatory schools attached to them, and these preparatory schools were commonly called "academies." But such was not the earlier purpose of the academies. They were largely schools for the middle classes of society, and sought to give a good middle grade of instruction, with only occasional or subordinate reference to college preparation. They answered to a growing desire after learning for its own sake, or for the increased efficiency it would give in other than professional pursuits.

The training which they offered was regarded as more "practical" than that of the colleges. Their course of instruction presented a wider range of studies than that of the grammar schools; not infrequently wider than that of the colleges themselves. They laid new stress on the study of the English language, together with its grammar, rhetoric, and the art of public speaking. They gave instruction in various branches of mathematics, often including surveying and navigation. They made important beginnings in the pursuit of the natural sciences. Natural philosophy (physics) was a favorite subject, of which astronomy constituted an important division. Geography was also taught; and history, especially the history of Greece and Rome, and of the United States. French was sometimes taught; more rarely German. In the better academies, the Latin and Greek languages still constituted the substantial core of the instruction offered.

In the earlier days, the course of study in these schools was not well defined. In some subjects, especially English, Latin, and mathematics, a good degree of continuity of work was apparently maintained. In others, classes were formed at irregular periods. Many young men who were obliged to labor on the farms during the rest of the year, would attend an academy during the winter term, and the order of instruction would to some extent be arranged with reference to their needs. There was necessarily great diversity among the different institutions, those in the same state or even in the same county presenting great differences. When finally definite courses of study were laid out, they varied in length from three to four or five years.

Parallel courses were offered. That including classical studies and covering the required preparation for admission to some college was commonly regarded as the standard course of the school. Along with this might be found an English course. At a later date, a scientific course was often provided in place of or in addition to the English course.

The religious character of these schools should be noted. Many of them were established by religious bodies. It was during the period which we have under consideration that Catholic secondary schools began to appear in considerable numbers. These were for the most part established by the several teaching orders. The Society of Jesus founded institutions of secondary and higher education in the United States after the revolutionary war. The Brothers of the Christian Schools opened their first school in America at Montreal in 1838; and soon after set up establishments within the United States, at Baltimore and New York. These were doubtless of elementary grade at the start; but the brethren extended their courses after a time to include secondary studies. Many conventual schools for girls were also established, and it became no uncommon thing for them to draw a large clientage from other than Catholic families.

The academies established by Protestant bodies were in some instances under direct ecclesiastical control; but more frequently their formal connection with ecclesiastical societies terminated with their legal incorporation. They were, however, generally characterized by great moral earnestness, on the part of both teachers and pupils; and many of them were remarkable for the intensity of religious life which they fostered. The religious instruction which they carried on concerned itself for the most part with the broad underlying principles of Christianity, avoiding in large measure the discussion of doctrines upon which the sects of Christendom are divided. It consisted mainly of lessons from the King James version of the Bible — both the Old and the New Testament. This was often supplemented by instruction in moral philosophy. Thus, the non-Catholic academies, even such as had arisen from the initiative of religious societies, tended toward the non-sectarian character which has been more fully exemplified in the public schools of later times.

The grammar schools had been exclusively for boys. Such was the case with many of the academies. Others of these schools were co-educational. With the increasing interest in education for women, there grew up a large number of academies for girls, which were all too often weighed down with the title of "female seminary." These two types of secondary education for girls prepared the way for two types of institution of higher education, both of which appeared in the fourth decade of the nineteenth century, viz., the co-educational college and the college for women exclusively.

The academies aroused and ministered to a strong and widespread desire for education. They greatly broadened the intellectual horizon of families and communities. They reinforced the protest which was arising against the too narrow curriculum of the American colleges. In many other ways they rendered a timely and most efficient service in the betterment of American thought and life.

One specific service must receive separate mention. In the absence of special schools for the training of teachers, the better elementary schools were for a long time in the hands of teachers who had studied in the academies. In New York and Pennsylvania, this service of the academies received recognition at the hands of the state legislature. Special classes were organized in these schools for instruction in the art of teaching. A seminary for teachers was opened in connection with the Phillips academy at Andover. When state normal schools began to be established, in Massachusetts in the year 1839, suggestions for their organization and management were drawn from this seminary and from the current practice of the academies.

THE HIGH SCHOOL MOVEMENT

In the early part of the nineteenth century, there appeared in the several American states a strong demand for schools under the exclusive control of the state government. Various influences contributed to this sentiment. The Calvinistic view of the civil power had apparently prepared the way for state agency in education. The spirit which drove the Jesuits from France and during the French revolution made education a part of the program of democracy, roused an answering spirit in America. The steadily advancing separation between church and state kept alive the question as to the relation of the schools to both. So far as the higher education was concerned, it seemed to be the well-established theory that the state should grant charters to colleges, authorizing them to manage their own affairs under close corporations, with incidental aid from the state in the shape of gifts of land or money. And this had come to be the prevalent method of meeting the demand for secondary education. But the notion of higher institutions chiefly supported and directly controlled by the state now began to get abroad.

The University of Virginia, under the guidance of Thomas Jefferson, led the way to the realization of this idea. In New Hampshire, the legislature undertook to transform Dartmouth college into Dartmouth university, without the consent of the college corporation. The attempt was frustrated by a decision of the United States supreme court. This decision was of the utmost importance in the history of American education as well as of American jurisprudence. It declared, in effect, that an institution founded and administered as was Dartmouth college was a private corporation; that the charter granted it by the state was in the nature of a contract, and accordingly could not, under the constitution of the United States, be altered by the legislature without the consent of the board of trustees. This decision established the inviolability of chartered rights. It thus gave security and stability to all incorporated institutions; it drew also a sharp distinction between "public" and "private" institutions, and placed the most of the then existing higher and secondary schools in the latter class. These schools served a public purpose and were open to public resort. They were in all but the legal sense public schools. But the clear definition of their legal status served to strengthen the rising demand for schools which should be public in every sense of the word. The growth of cities and many other causes combined to reinforce this demand.

The first step in the establishment of public secondary schools to supplement or fill the place of the academies was taken by the larger towns and municipalities, under the lead of Boston. The new institutions were a direct outgrowth of the system of elementary schools. The course of study in these schools was becoming better defined and was slowly extending. In Boston, it was extended downward in the year 1818 to include primary schools in which the first steps in reading were taken. The same system was extended upward in 1821 by the establishment of an "English classical school," which soon took the name of "English high school." The name seems to have been adopted in imitation of the high school of Edinburgh. There had been for many years close intellectual sympathy between the Massachusetts town and the Scotch capital. The new Boston school differed, however, in important particulars from its namesake in Edinburgh. The ancient languages were not included in its curriculum. It did not employ the monitorial method of instruction, then in vogue in Edinburgh. But the two schools were alike in this: that each was supported and controlled by the municipality and was an object of municipal interest and pride.

The English high school was established to meet the needs of the middle, and especially the commercial, classes. Its course of study was three years in length, embracing the English language and literature, mathematics, navigation and surveying, geography, natural philosophy (including astronomy), history, logic, moral and political philosophy. Latin and modern languages were added later, and the course extended to four years. Students were received into the high school from the elementary schools of the city, but were not at the first prepared in the high school for admission to college. That was still the function of the Latin school. But with the addition of foreign languages to its course of study, the English high school has fitted its students for admission to certain higher institutions, and particularly to the Institute of Technology.

Boston was still a town when she set up her English classical school, but became a city in the following year. The new school was proposed by the school committee, and was approved by the people, assembled in town meeting. Other Massachusetts towns soon followed the lead of Boston in this matter. Philadelphia, in 1838, established the Central high school, under special authorization from the Pennsylvania legislature. Baltimore followed, with the establishment of a "city college." Providence opened a public high school in 1843. Hartford, in 1847, transformed her old grammar school into a school of the newer type. New York opened a "free academy" in 1848, the name of which was afterwards changed to "the College of the City of New York." This school was established in accordance with a special act of the state legislature, ratified by vote of the people of the city. Other high schools sprang up in various parts of the country before the year 1850 — in Connecticut, in New York, in Ohio. Since that time the movement has steadily continued, until now these schools are found in every state in the union, in cities, in smaller towns, and even occasionally in thickly populated country districts.

The zeal of communities in the establishment of these schools not infrequently outran the express provision of state school laws. But the movement encountered hostility from various sources, notably from those who regarded the academy as the final or best solution of the problem of public secondary education, and from those who were opposed on principle to the recognition of secondary education as a proper field for governmental agency. The legal questions involved in this latter contention were brought to a settlement in the supreme court of Michigan, in what is commonly known as the "Kalamazoo case." The decision of the court in this case was prepared by one of the most eminent of American jurists. It was summed up in the words, "Neither in our state policy, in our constitution, nor in our laws do we find the primary school districts restricted in the branches of knowledge which their officers may cause to be taught, or the grade of instruction that may be given, if their voters consent, in regular form, to bear the expense and raise the taxes for the purpose."

This case not only settled the question which it raised within the territorial limits of the state of Michigan. It settled also the general policy of the American commonwealths in this matter. The opinion of the court, in its ample setting-forth, made clear the fact that American thought and purpose were moving steadily toward a complete system of education, under full public control, its several parts well knit together so as to form an organic whole.

But in several of the states the people were not left to work out the problem of secondary education in the isolation of scattered communities. In these states, well ordered systems of secondary schools were established by statute. As early as 1798, Connecticut authorized the opening of higher schools by the local authorities ("school societies"). In Massachusetts, the law requiring grammar schools in the towns was so far weakened, in 1824, that towns having a population of less than 5,000 were allowed to substitute therefor an elementary school, if the people should so determine by vote at a public election. This marks the lowest ebb of public school sentiment in the Bay state—at least so far as secondary education was concerned. The academies were then at the height of their prosperity. But two years later the return movement set in. It was enacted that every town having five hundred families should provide a master to give instruction in history of the United States, bookkeeping, geometry, surveying and algebra; and every town having four thousand inhabitants, a master capable of giving instruction in Latin and Greek, history, rhetoric, and logic. The young state of Iowa adopted a provision in 1849 expressly permitting the adding of higher grades to the public schools; and in 1858 authorized the establishment of county high schools. In New York, the systematic grading of the schools went steadily forward; and the "academic departments" of these schools, corresponding to the high schools of other states, formed a part of the university of the state of New York and received financial aid from the literature fund. In Maryland, the county academies, which had displaced the grammar schools of colonial days, continued for many years to receive financial aid from the state, and only in comparatively recent times were merged into a state system of high schools.

Other important state establishments have taken shape at so recent a date that they will be described later under the account of present-day systems of schools.

THE OLD AND THE NEW

We have seen that by the middle of the nineteenth century a great change had come over secondary education in the United States. Two aspects of the new order of things are worthy of note: First, the position in which it placed the old academies; secondly, the tendency which it marked toward a closing up of gaps in the system of public instruction.

The academies had long been the ordinary and accepted agency for secondary education. They had provided a general training for the great body of students. They had also drawn near to the colleges, and now prepared a large proportion of the candidates for admission to the freshman class. Private schools had grown up which paid especial attention to fitting boys for college; and from the earliest times many had received such preparation at the hands of private tutors, and particularly under the personal direction of clergymen. But the academies were now *par excellence* the preparatory schools of the country. The growth of high schools had taken away from them the character of the ordinary provision for secondary education. Many of them declined as the high schools advanced; many were given over to the communities in which they were conducted and became high schools, under public management. Those that survived laid more and more stress on their function of preparing for college. A goodly number of these are stronger now than ever before; and new schools of this type are founded from time to time. In recent years the increase of wealth, the rise of new social distinctions, dissatisfaction with the colorless religious character of the high schools, and many other causes, have caused a new demand for such schools to arise. They prepare for college, but do not in general look upon this as their sole function. They are recognized as constituting a highly important part of American provision for public education. While the high schools are for day pupils only, the academies are generally boarding schools. They afford favorable ground for the deep rooting and vigorous growth of traditions of culture and scholarship. The more famous of them draw students from long distances, and accordingly exercise a widespead influence upon American educational standards.

The high schools, on the other hand, are an evidence of the widespread desire in America for complete systems of education under public management. The impulse which resulted in their establishment is closely related to that which, especially in the southern and western states, led to the founding of state universities. The organic connection between the high schools and schools of elementary grade has already been noted. At the first there was a recognized gap between the high schools and institutions of higher learning. The earliest high schools were intended specifically for those who were not preparing for college. But there soon appeared a disposition on the part of the public school authorities to close up this gap. Studies regarded as distinctively preparatory to college were from time to time introduced into high school courses. Of these, Greek had and still has the most precarious hold upon public favor. Yet there were and still are even small communities remote from the great centers of wealth and learning, where Greek has an assured and honored place in the high school curriculum.

A CONTINUOUS SYSTEM OF PUBLIC INSTRUCTION

It should be stated here that well-established American usage now recognizes three consecutive stages of instruction, commonly distributed as follows: Eight years are assigned to the elementary school; four years to the high school or academy, following directly upon the elementary course; and the four years next following to the college, which offers finally the bachelor's degree. The whole course from the primary school to the first degree is accordingly sixteen years in length. It should be noted, however, that there is a growing disposition to recognize the first two years of the college course as offering instruction which is essentially of secondary grade. And there is also a growing demand for the introduction of secondary studies and secondary methods into the upper grades of the elementary school course.

The tendency of public high schools to assume the function of preparation for college met with strong opposition. It was claimed that this service could best be rendered by special schools conducted for that express purpose. The discussion of this question has brought out two contrasting ideals of American life, and has shown more clearly the nature of the movement which called the high school into being.

The colonial period was a time in which distinctions of rank were still fairly well defined in American society. The higher schools of that time, intended especially for the ruling class, had no organic connection with the lower schools. The secondary schools were a part of the higher system, and had little or nothing to do with the lower.

The first fifty years or more of independence was a time of readjustment. The earlier system of social levels was gradually transformed into a continuous series of gradations. Society became an inclined plane, as it were, with free and open passage up and down the scale. Every school child was taught to consider himself as started on a way which might lead to the highest places.

It seems inevitable that public education should in turn have been influenced by the sentiments which it had helped to form. An unlimited system of public schools was necessary to the realization of the unlimited aspiration of the people. The prevalent instinct slowly rose to a conscious determination that there should be no *cul-de-sac* in the educational systems of the republic.

THE SCHOOLS AND THE COLLEGES

Even when the high schools had begun to prepare their more favored students for college, the connection between the secondary and the higher institutions was not so close as was desired. In some of the leading states of the east, the chief, or indeed the only, provision for higher education was in institutions managed by private corporations. In many of the newer states, there were growing up universities under full state control. But these universities were supported out of funds separate from those devoted to the common schools, and were controlled by separate administrative boards. The requirements for admission to college were determined by the college faculties, with only incidental reference to the purely educational problems confronting the secondary schools. The fitness of candidates for admission was determined by an examination, conducted at the college, by college instructors, and covering the requirements which the college had prescribed.

This system, to be sure, possessed great advantages. It compelled all schools which undertook preparation for a given college to come up to a definite scholastic standard imposed from without. It exercised no authority over the schools, but exerted an influence which a preparatory school could not escape. Besides, the standard set for classes preparing for college had an indirect influence on classes in the same school which were pursuing other lines of study. So the most powerful single agency affecting the course and the methods of instruction in the better high schools, as in the academies, was for many years the entrance examinations of the several colleges.

But there were evils attendant upon this system. When the excellence of a four-year course of school instruction was to be tested by a single examination at the end of the course — this examination being conducted by the instructors in another, and often a remote institution, with sole reference to the plans and purposes of that institution,— it was inevitable that the lower school should become merely tributary in all essential particulars to the higher. The college examination became the chief end and aim of much of the work in our secondary schools. There appeared a marked tendency to substitute a cramming process for real educational procedure. Teachers in secondary schools were too largely turned aside from independent investigation of the essential problems of secondary education, to the more petty inquiry into the exact nature of the entrance examinations at certain colleges. It was clear that such a state of things did not answer to the organic continuity of instruction which American social conditions seemed to demand.

The attempt to correct this evil has taken several different directions. Some of the most interesting movements affecting our secondary education within the past three decades have had this origin. How may a more vital relation be established between secondary schools and colleges, which shall conserve the highest educational interests of both? Such is the general question for which a solution has been sought.

THE "ACCREDITING SYSTEM"

One of the earliest and most noteworthy attempts at its solution is the so-called accrediting system, introduced by the University of Michigan in 1871. Under this system, the university admits to its freshman class, without examination, such graduates of approved secondary schools as are especially recommended for that purpose by the principals of those schools. This system has met with great favor and has had widespread application. The United States commissioner of education reported in 1896, that there were then 42 state universities and agricultural and mechanical colleges, and about 150 other institutions in which it had been adopted. It depends upon a purely voluntary agreement between the secondary schools and the higher institutions. The college or university satisfies itself that the secondary school applying for such recognition is properly taught. Usually a committee of the faculty is sent to inspect the school, and the school agrees to submit itself to such inspection. It is the school rather than the individual that is examined; and the inquiry relates chiefly to the vitality, intelligence, and general effectiveness of the instruction.

Hardly any two institutions follow exactly the same method in the practice of accrediting schools. The Michigan system provides for inspection of each school by a committee of the faculty, consisting of one or two members. On a favorable report from this committee the school is accredited for one, two, or three years, according to the degree of established excellence which it presents. With the spread of the system to other institutions, it has differentiated on the one hand in the direction of a more frequent and thorough-going inspection of the schools, and on the other hand in the direction of less thorough inspection or none at all. Perhaps the lowest outcome of this differentiation is represented by the announcement of the authorities of one college that "Students bearing the personal certificates of a former teacher, concerning studies satisactorily completed, will be given credit for the work they have done."

On the other hand, the highest grade of efficiency in university inspection is found in such a system as that maintained by the University of California. Here the accrediting of schools is in the charge of a committee of the academic senate, representing the chief departments of instruction. All secondary schools within the state which apply for accrediting — public high schools, private schools, and institutions under corporate or ecclesiastical management — are visited each year under the direction of this committee by several members of the teaching force of the university. A given school is commonly so visited and inspected in the course of each year by instructors from each of the university departments of English, Latin, history, mathematics, and physics. In some instances, the departments of Greek, modern languages, chemistry, and the biological sciences, or any one or more of them, may be added to the list. In other cases, the visitor from the department of English, for example, may, by special arrangement, examine the school for the Latin department; and other economical combinations are made from time to time.

The heads of departments visit many schools in person; university instructors of various subordinate grades share in this labor; but so far as possible the assignment to such duty is limited to persons of considerable scholastic experience, and experience as a teacher in secondary schools is regarded as a qualification of no small importance. The men who go out for the purpose of such visitation are at the time engaged in ordinary university instruction. The loss to their classes from the interruptions to continuous work which their occasional absence must cause, is minimized by various devices. The expense of the visitation is borne by the university. A school may be "accredited" without a favorable report in all subjects, but the report must be favorable in a sufficient number of lines to indicate that the school is a real educational institution. Superior excellence in a single isolated department is not regarded as constituting a claim to a place on the university list.

The purpose of a well-considered accrediting system is not primarily to provide a means whereby applicants for admission to college may escape a dreaded examination. It is rather to encourage and build up strong and efficient schools of secondary grade. This result the system has undoubtedly tended to bring about. It has drawn our secondary and higher grades of instruction into closer articulation and sympathy one with the other. It has tended to release the teachers in secondary schools from the domination of merely formal examination requirements, and has turned their attention to vital matters in the domain of education.

On the other hand, the system has had and still has serious disadvantages. It tends to foster a too prevalent disposition to dispense with or evade all tests of accurate scholarship in the shape of definite examinations. It entails a heavy burden upon the higher institution; it demands large expenditures of money and of the time of university instructors. In the University of California, the actual cost in money for the traveling expenses of the inspectors is about equal to the salary of an assistant professor. The aggregate of the time required each year by all departments for the purposes of the examination of schools is not far from three full academic years. Counting the average salary of the inspectors as that of an associate professor, we have here an approximate total cost for services and traveling expenses of between $8,000 and $9,000 annually. It is, moreover, impossible so to conduct the inspection that all departments of all schools shall be tried by uniform or even consistent standards of excellence. Nor does the accrediting system wholly obviate the evil of subjecting the secondary schools to tests and influences somewhat foreign to the real purposes of secondary education. It cannot be regarded and is not generally regarded as a final solution of the problem with which it deals. But it marks a very great advance toward that end; and it is safe to say that its present advantages greatly outweigh its obvious disadvantages.

SCHOOL AND COLLEGE ASSOCIATIONS

Parallel with the later development of the accrediting system, there have grown up important voluntary associations of instructors, in which representatives of the colleges meet with representatives of the secondary schools for the discussion of topics of common interest. The parent society of this sort is the New England association of colleges and preparatory schools, organized at Boston in 1885. The object of this association was declared to be, "The establishment of mutually sympathetic and helpful relations between the faculties of the colleges represented and the teachers of the preparatory schools, and the suggestion to that end of practical measures and methods of work which shall strengthen both classes of institutious by bringing them into effective harmony."

This organization grew out of a previously existing state association of secondary school teachers in Massachusetts. It in turn prompted the establishment of the commission of colleges in New England on admission examinations. This commission, formed by agreement among the several New England colleges, and possessing no authority, has by its recommendations done much to unify the requirements for college matriculation. Its most notable achievement has been the mapping out of requirements in the English language and literature. It has made important recommendations also with reference to courses in the ancient classics and the modern languages.

The example of New England has been followed by other sections of the country. The association of colleges and preparatory schools in the middle states and Maryland came into existence in 1892, growing out of the college association of Pennsylvania, established five years earlier. The north central association of colleges and secondary schools was formed at Evanston, Illinois, in 1895; and the association of colleges and preparatory schools of the southern states, at Atlanta, Georgia, later in the same year. State organizations somewhat similar in character are found in a number of the states, as in New York, Ohio, Tennessee, Colorado, Michigan, and both Dakotas.

These various societies, through their discussions and recommendations, have exercised a vast influence upon the development of our secondary education.

THE COMMITTEE OF TEN ON SECONDARY SCHOOL STUDIES

But the chief landmark in the recent history of this grade of school is the work of the committee on secondary school studies, appointed by the National educational association in 1892, and commonly known as the "committee of ten." This committee was the outcome of a movement within the national association in the direction of uniformity of college entrance requirements. Its chairman was the president of Harvard university. In its membership were included the United States commissioner of education and some of the foremost representatives of both secondary and higher education in America. Not limiting itself to the mechanical adjustment of relations between the high school and the college, this committee proceeded to consider the problem of secondary education from an educational point of view. Nine sub-committees of ten members each, were appointed to prepare reports on the several ordinary departments of secondary school instruction, viz., Latin, Greek, English, other modern languages, mathematics, physics (with astronomy and chemistry), natural history (biology, including botany, zoology, and physiology), history (with civil government and political economy), and geography (physical geography, geology, and meteorology).

The committee of ten, having secured carefully prepared reports from its sub-committees, and having examined a large number of the courses in actual use in secondary schools, drew up a report which was published by the United States government in December, 1893, together with the reports of the several sub-committees. The contents of this document may be briefly summarized as follows:

In all of these discussions, the distribution of the years of school life now generally followed in the educational administration of the American states is assumed as a datum. The demand for an earlier introduction of secondary school studies is, however, reiterated by several of the sub-committees. They call attention to the disadvantage to students pursuing, for instance, the study of Latin, which results from postponing the beginnings of that study to the ninth year of the school course, when the student has already passed the most favorable time for memorizing paradigms and a strange vocabulary. The committee of ten, while approving strongly of these recommendations, confine their proposals to improvements in the ordinary four-year secondary course.

After discussing the principles which should guide in the framing of courses of study, the committee present four sample courses, which may be taken as illustrations of the application of those principles. These sample courses are, however, generally regarded as the least successful and significant outcome of the committee's labors. The portions of the report which represent the most mature deliberation are those which propose general principles for guidance in the making of such courses.

The committee lay great stress on the correlation of studies in secondary schools: the unifying of many subjects into a well-knit course of instruction, through the recognition of their numerous inter-relations. They endorse the unanimous recommendation of the sub-committees that the instruction in any given subject shall not be different for a student preparing to enter a higher institution from that for students who go no further than the high school. They make an urgent plea for more highly trained teachers. They declare against a multiplicity of "short information courses," such as have been given in many high schools in times past: a dip into one science followed by a dip into another, and no deep draught from any. Instead, they recommend that such subjects as are studied be pursued consecutively enough and extensively enough to yield that training which each is best fitted to yield. They would have continuous instruction in the four main lines of language, mathematics, history, and natural science. In particular, they recommend that in the first two years of a four-year course, each student should enter all of the principal fields of knowledge, in order that he may fairly "exhibit his quality and discover his tastes." They recommend the postponement of the beginning of Greek to the third year, in order that the student may not find himself at the bifurcation of the course into classical and Latin-scientific courses, before he is ready, or his advisers sufficiently informed as to his capabilities, to make an intelligent choice. The committee would require in each course a maximum of twenty recitation periods a week; but they would have five of these periods devoted to unprepared work; and would reserve double periods for laboratory exercises whenever possible.

Within the limitations indicated above, as to continuity and extensiveness of studies in each of the broad divisions of knowledge, the committee would leave to the individual student and his advisers the largest possible freedom in the choice of studies. With reference to requirements for admission to college, the committee recommend "that the colleges and scientific schools of the country should accept for admission to appropriate courses of their instruction the attainments of any youth who has passed creditably through a good secondary school course, no matter to what group of subjects he may have mainly devoted himself in the secondary school." Describing more exactly what might be considered "a good secondary school course" for this purpose, they propose that it shall consist of any group of studies from those considered by the sub-committees, "provided that the sum of the studies in each of the four years amounts to sixteen, or eighteen, or twenty periods a week,— as may be thought best,— and provided, further, that in each year at least four of the subjects presented shall have been pursued at least three periods a week, and that at least three of the subjects shall have been pursued three years or more."

This report called forth a very active discussion, which has not yet come to an end. The definite courses of study which it suggested have not been widely adopted; nor have college admission requirements been made uniform in the manner which it proposed. But its influence has been far-reaching and, in the main, highly beneficial.

THE ELECTIVE SYSTEM

Since the early days of the academies, it has been customary in many schools to offer alternative courses; one of them classical, the other "modern." Other options have been added from time to time, so that now a large school commonly offers several parallel courses. But especially within the last twenty years, there has appeared a strong demand that instead of a choice of courses the students be offered a wide range of choice in particular subjects.

Several influences have combined to bring about this demand. The general adoption of an elective system in the colleges may be mentioned. Teachers have objected to close prescription in high schools when freedom is increasing in the higher institutions. The conviction that the secondary schools should not be merely tributary to the colleges is gaining ground. What is good education in the high school, it is maintained, is good preparation for the higher schools. The independence of the secondary school carries with it independent responsibility for the supply of the actual educational needs of the youth attending such a school. And the students in the high schools are thought to have reached the stage of differentiation of educational needs. The need of the state, moreover, which education must satisfy, is the need of full spiritual unity underlying the utmost diversity of talent and culture. The elementary schools, with their single course of study, are conservators of spiritual unity. The secondary schools can and ought to serve a different purpose. Their instruction should be adapted to the cultivation of the diverse talents of the youth enrolled in them. No two students have exactly the same aptitudes; so far as possible, every student should pursue a different course of instruction from every other student.

It will be seen that one tendency of this doctrine is to substitute a quantitative for a qualitative consideration of the curriculum. The most diverse subjects are held to be equivalent for the purposes of general culture, if pursued for equal periods of time under equally favorable conditions. A high school curriculum, under this system, would consist of a fixed number of units of study, to be chosen at will from the whole number of studies taught in the school. Certain utterances of the committee of ten have tended to strengthen this quantitative view of the curriculum. It has received reinforcement, also, from some prominent institutions of higher instruction, as the Indiana and the Leland Stanford Junior universities, which have stated their admission requirements for the most part in quantitative terms.

In the attempt to reduce this doctrine to practice, certain modifications necessarily enter. The choice of studies cannot be left simply to the immature pupil. He must have the advice of parents or guardians, and particularly the advice of the principal of the school. Even if other subjects may be given over to absolute freedom of election, studies in English are found to be indispensable in every course. Little by little, other subjects are acknowledged to be essential; until it appears that there is little difference in practical working between a system of parallel courses rendered flexible by the allowing of occasional substitutions, and an adequately supervised elective system. The committee of ten enunciated an important regulative principle in proposing that each secondary school curriculum should provide an outlook into the several domains of language, mathematics, history, and natural science. From whichever side the problem of the course of study is approached, the discussions seem to tend toward a requirement in each of several broad fields of knowledge, together with large freedom in the choice of particular subjects within those fields.

COLLEGE ENTRANCE REQUIREMENTS

The latest attempt at an adjustment of the relations of secondary schools and colleges, to the educational advantage of both, is contained in the report of the committee on college entrance requirements. It seems not unlikely that this report may be more fruitful of tangible results than any of the papers relating to the same subject which have preceded it.

In 1895, the National educational association, through its departments of secondary education and higher education, appointed a committee to consider the specific question of the unification of college entrance requirements. This committee, as finally constituted, consisted of fourteen members, representing the high schools and universities of different sections of the country, under the chairmanship of the superintendent of high schools of the city of Chicago. The first important service rendered by the committee was the preparation and publication of a table showing the actual entrance requirements of sixty-seven representative colleges, universities, and higher technical schools in the United States.

The committee's final report was presented at the meeting of the National educational association in July, 1899. This report is mainly devoted to the attempt to establish "national units, or norms," in the several subjects taught in the secondary schools as preparatory to the college course. The fundamental problem, in the language of the committee, "is to formulate courses of study in each of the several subjects of the curriculum which shall be substantially equal in value, the measure of value being both quantity and quality of work done. It is not to be expected, nor is it desired, that all colleges should make the same entrance requirements, nor is it to be expected that all schools will have the same program of studies. What is to be desired, and what the committee hopes may become true, is that the colleges will state their entrance requirements in terms of national units, or norms, and that the schools will build up their program of studies out of the units furnished by these separate courses of study." This hope is reinforced by experience with college entrance requirements in English, which have within the past few years become nearly uniform throughout the country, on the basis of the recommendations of the commission of colleges in New England on admission examinations.

In the determination of these norms, the committee received assistance from several bodies of expert scholars in the several branches of instruction. The American philological association proposed courses of study in Latin and Greek. The modern language association of America rendered a like service with reference to the French and German languages. The American historical association and the Chicago section of the American mathematical society reported on courses in history and mathematics. And the department of natural-science instruction of the national educational association presented recommendations relating to physical geography, chemistry, botany, zoology, and physics. These several supplemental papers are published in connection with the committee's report. The committee express general approval of the courses recommended in these papers, suggest some slight modifications, and offer an independent report on the subject of English. Their further recommendations are summed up in fourteen resolutions, of which the following seem to be of the greatest general significance:

I. That the principle of election be recognized in secondary schools.

IV. That we favor a unified six-year high school course of study beginning with the seventh grade.

VI. That while the committee recognizes as suitable for recommendation by the colleges for admission the several studies enumerated in this report, and while it also recognizes the principle of large liberty to the students in secondary schools, it does not believe in unlimited election, but especially emphasizes the importance of a certain number of constants in all secondary schools and in all requirements for admission to college.

That the committee recommends that the number of constants be recognized in the following proportion, namely: four units in foreign languages (no language accepted in less than two units), two units in mathematics, two in English, one in history, and one in science.

XII. That we recommend that any piece of work comprehended within the studies included in this report that has covered at least one year of four periods a week in a well-equipped secondary school, under competent instruction, should be considered worthy to count toward admission to college.

The committee disclaim any implication that different subjects may be regarded as educationally equivalent. "This proposition" [resolution XII], they say, "does not involve of itself, necessarily, the idea that all subjects are of equal cultural or disciplinary value, * * * yet the advantages to our educational system of the adoption of this principle will be so great as far to outweigh any incidental disadvantage which may accrue from accepting as of equal value for college purposes the more or less unequal values represented by these studies."

COURSES OF STUDY

The actual courses of study in our secondary schools show great diversity. There is here, as in other portions of the American educational system, no semblance of national control. There are but few states if any where the course of study is prescribed by state authority. This matter is generally left to the discretion of municipal or district boards of education. Yet the differences between neighboring schools, or between the schools of different sections of the country, are not so great as one might suppose. Owing to the extensive circulation of all sorts of educational publications, and the frequent meeting of teachers one with another in educational conventions, there is a surprising approach toward uniformity in the educational provisions found in all parts of the country. Even the poorer and more backward sections are often found striving conscientiously and earnestly after the ideals proposed by more favored districts. High schools may be found having courses ranging all the way from one to six years in length; but the four-year course is the generally recognized standard. Twenty years ago, it was common to find courses weighed down with a large number of subjects, many of them pursued for only a fraction of a year. This was notably true of subjects in natural science; but it is true to a much less extent at the present day. In spite of all assaults made upon the classical studies, they are apparently growing in favor. It would perhaps be fair to say that in many of the better schools, public as well as private, the classical course is commonly regarded as the standard, from which the other courses pursued in the same school are looked upon as variants. But the classical course now commonly includes one or two years of natural science.

The courses given below represent three different types of school:

1. Courses in Phillips academy, Andover, Massachusetts. — an incorporated and endowed boarding school for boys.

[The figures in the columns indicate the number of recitation periods a week devoted to the several subjects. Figures in parentheses indicate that the subjects for which they stand are alternative with others in the same column.]

	CLASSICAL COURSE				SCIENTIFIC COURSE			
	Class IV	Class III	Class II	Class I	Class D	Class C	Class B	Class A
English	4	2	2	Eighteen hours selected from the foregoing subjects, with the addition of physics, trigonometry, mechanical drawing and zoology.	4	2	2	Eighteen hours selected from the foregoing subjects, with the addition of trigonometry, mechanical drawing, zoology, political economy and physics.
Latin	6	5	5		6	4	(2)	
Greek	....	4	5		....	....	.....	
French	....	(4)	(1)		....	(4)	(2)	
German	....	(4)	(1)		....	(4)	(2)	
Algebra	2	2	2		2	3	3	
Geometry	2	....	....		2	3	3	
History	....	....	3		....	....	4	
Natural Science	2	....	....		2	....	.....	
Chemistry	....	....	....		....	2	(4)	
Botany	....	....	...		....	....	(2)	

2. Courses recommended for the high schools of Minnesota by the state high school board.

	LATIN SCIENTIFIC COURSE			
	First year	Second year	Third year	Fourth year
English	5	5	5	5
Latin	5	5	5	5
Mathematics	5	5	....	5
History	....	5	5	......
Natural science	5	....	5	5

In Latin, first year, grammar; second year, Cæsar; third year, Cicero; fourth year, Virgil. In mathematics, first year, algebra; second year, plane geometry; fourth year, solid geometry and higher algebra. In natural science, first year, zoology or botany; third year, physics; fourth year, chemistry.

Literary Course: as above, substituting four years of German for Latin.

Classical Course: as above, substituting Greek grammar and Anabasis for equivalents.

English Course: as above, substituting for Latin four credits chosen from botany, physiography, bookkeeping, civics, history, political economy, and senior common branches.

3. Course for Public Latin school, Boston, Massachusetts:

	Class VI	Class V	Class IV	Class III	Class II	Class I
English	3	3	3	3	3	3
Latin	5	5	7 [4]	4	5	4
Greek	......	......	[4]	5	5	5
French	......	......	[3]	3	2	....
German	......	......	......	......	......	5
Arithmetic	4 [5]	4	......	......	......	....
Algebra	......	......	4 [3]	3	3	....
Geometry	......	......	......	......	......	4
History	3	3	2	2	2	....
Geography	3	3	1	......	......	....
Physics	......	......	......	......	......	4
Gymnastics	2	2	......	......	......	....
Military Drill	......	......	2	2	2	2

The brackets indicate an assignment of hours for the spring term which differs from that in the same subjects for the remainder of the year. Botany, physiology and hygiene are studied during the spring term in the hours assigned to geography in the table. Objective geometry is studied in connection with arithmetic in classes VI and V. Plane geometry is begun in the hours assigned to algebra in class II.

DIFFERENTIATION OF SCHOOLS

The differentiation which appears everywhere in our secondary education is not limited to the diversifying of studies within the several schools; it appears also in the erection of special schools for special classes of students. In the first place, we may note the provision for separate schooling of boys and girls. The grammar schools of the seventeenth and eighteenth centuries were for boys alone. A number of the old academies were co-educational. Early in the nineteenth century, academies for girls exclusively were established, and large numbers of such schools have flourished down to the present day. A public high school for girls was established at Boston in 1826, but it was short-lived, owing to the large expense which it entailed. At Providence, Rhode Island, in 1843, a co-educational high school was opened; and the most of the high schools established since that time have been for both sexes.

The report of the United States commissioner of education for 1896–97 showed a total of 5,109 public high schools in the whole country, of which 35 were for boys only, 26 for girls only, and the remainder co-educational. The same report showed a total of 2,100 private high schools, academies, etc., of which 351 were for boys only, 537 for girls only, and 1,212 co-educational.

Another special type of school, the evening high school, has been established in a number of our larger cities. These schools have offered very elastic courses of study, suited to the varied needs of their clientage; and have been a great boon to many who have been obliged to work by day after the completion of an elementary school course.

In the northern and western states, white and colored students, where there are colored students of secondary grade, commonly attend the same schools. In the southern states, separate schools are provided for those of African race. The report of the commissioner of education for 1896–97 showed 169 schools in the United States for the secondary and higher education of colored youth exclusively. In many of these schools both grades of instruction were provided in the same institution. About 20 of the number were public high schools. The remainder were private or denominational institutions. In these 169 schools, 15,203 colored students were receiving instruction of secondary grade.

The European manual training exhibits at the centennial exhibition in Philadelphia, in 1876, gave a strong impetus to a movement already begun toward the establishment of manual training schools in American cities. St. Louis took a step forward, in 1879, in the establishment of such a school in connection with Washington university. Within a few years, similar schools were established, some under private and some under public control, in Baltimore, Chicago, Toledo, New York, Philadelphia, and other cities. In these schools, the idea of manual training for the purposes of general culture was usually uppermost, their projectors disclaiming any intention of establishing schools for the teaching of trades. More recently trade schools have been established in the largest cities, but for the most part under private initiative and control.

The commercial spirit of this country finds expression in the frequent appearance of such subjects as bookkeeping and commercial arithmetic in general courses of study. Special schools for distinctively commercial training are usually private ventures. These are found in great numbers in all parts of the country, generally going by the name of "commercial college" or "business college." In 1896–97, the commissioner of education presented reports from 341 such schools, with 77,746 students in attendance. Within the past decade there has been a growing demand for public commercial high schools in the larger cities. Thus far, comparatively slight provision has been made to meet this demand, but there is reason to expect that there will in the near future be a considerable expansion of our public education on this side. The business high school in Washington, D. C., may be mentioned as one illustration of the serious interest which has begun to appear in this side of secondary instruction.

The recognition of the importance and need of purely vocational schools of secondary grade puts a new aspect on the problem of the school curriculum. As has been shown, Americans are loath to recognize any necessity of a bifurcation of courses, such that the student taking one road finds the way open to indefinite advancement in higher studies, while one taking the other alternative finds a definite limit a little way before him. We have commonly failed to recognize the need of turning aside at some point, early or late, to master a distinct occupation in life. We have been willing to sacrifice expertness in one's calling to the hope of unlimited progress in higher culture. With the growing interest in technical training of a commercial or mechanical sort, there appears a set of difficult problems. A purely vocational course in a trade school presents no educational outlook beyond the mastery of the trade. If a final choice must be made between the highway of learning and the *cul-de-sac*, how shall it be so far postponed as to give to each pupil his full share of general culture, without reducing unduly his chance of full preparation for his life work? Still more difficult are the questions relating to certain semi-vocational courses, such as those of the manual training high school. The tendency is to regard these as primarily courses for general culture, with an outlook into the college or the higher scientific school. It is possible that at times their service as preparatory to the mastery of certain trades has been somewhat obscured in this view. But questions such as these are still before us for settlement.

THE STUDY OF ADOLESCENCE

One movement should be mentioned which is part cause and part result of the increased attention which is now paid to problems of secondary education, in themselves considered. Reference is made to the study of the several aspects of adolescence, as a stage in the mental development of individuals. Secondary education being essentially the education of adolescents, whatever throws light upon the peculiar psychology and natural history of this period of youth is of value to the educator. Many studies of particular phases of adolescent development have been made within the past few years, under the stimulus of investigations begun at

Clark university. These studies are as yet fragmentary; and they cannot be said to have led to well-defined reforms. Yet their influence has been manifest in the general tone and spirit of secondary education. They have prompted to a more sympathetic treatment of our youth in their time of spiritual reconstruction; to a better appreciation of the difficulties attending the passage from the intellectual dependence of childhood to the individual convictions of manhood and womanhood. They have led to a more careful observation of individual differences of development, and have strengthened the demand for greater freedom in both courses and methods of instruction. Such results warrant the hope that further researches in this field may lead to generalized knowledge of the needs and aptitudes of youth, which will be of the highest significance in educational practice.

METHODS OF INSTRUCTION

Methods of instruction in all secondary school subjects have been profoundly influenced of late from the side of the natural sciences. Laboratories have become common in high schools and academies. College entrance requirements have been extended to include laboratory work in physics, and, in some instances, in chemistry or in the biological sciences. In Massachusetts, in 1897, it was reported that 66 high schools were provided with laboratory facilities, 80 had fair or limited facilities, and 98 had poor facilities or none.

In these laboratories, students perform representative experiments in the science they are pursuing, under the guidance and subject to the criticism of the instructor. These experiments are commonly regarded as illustrative of or preparatory to the statement of principles in a text-book. The "method of re-discovery" has influenced the practice of the schools; yet there are probably few school laboratories in which the students are expected to re-discover on their own account the laws of physics or chemistry, or of any other of the sciences. A fine blending of discovery, verification, and correction seems to be the ideal of our best teachers of natural science. Much stress is laid on the accurate recording of observations and experiments. The students' notebooks serve as one of the chief tests of the excellence of their work.

This is different from the prevailing method of a generation ago: the text-book was then the main reliance in school instruction, even for classes in the natural sciences.

The lecture system has never occupied a large place in our secondary schools. Clearness of exposition has always been, and will doubtless always be an important element in a teacher's equipment for teaching. Skillful instructors have at all times exercised themselves to help their pupils over difficulties in such manner as would prepare them to surmount future difficulties for themselves. And we read of old-time masters who were famous for their ability to ask searching and stimulating questions. But set lectures have not found favor here. Oral and written recitations by students, on the other hand, fill a large place in the work of our schools.

The recent extension of laboratory exercises, together with the proportionate reduction of text-book study, represents a notable change of view as to the function of instruction in general. We find accordingly that a like change appears in the treatment of other branches than the natural sciences. The attempt is now made to put the student in touch with first-hand materials of knowledge; and to guide and stimulate him to the end of making over these crude facts into real knowledge for himself. This procedure seeks to give full recognition to both the ideal and the sensuous elements in knowledge; and it indicates some appreciation of the fact that the ideal element to be truly ideal must be supplied by the active agency of the student's own thought, exercised upon the products of his own experience.

In the practice of the schools, we find these principles applied, for example, to the teaching of history. While text-books are not dispensed with, the effort is made to give the student some acquaintance with the sources of our historical knowledge. In the study of literature, less attention is paid to historical summaries than was formerly the case, and more time is devoted to the study of literary masterpieces. In grammar and rhetoric, the study of principles is closely connected with the study of passages from literature which embody those principles in living forms; and with composition exercises upon topics which invite free expression. In the study of modern languages, facility in conversation is not commonly sought; though there are schools here and there which lay great stress upon this acquisition. The ability to read the languages readily and with understanding, and to enter into an appreciation of their literatures, are the ends chiefly striven for. To these ends, grammatical study is of course necessary. But the grammar is studied, on the whole, less abstractly than formerly, and more in its actual embodiment in literature. Greater effort is made now than a generation ago to secure a reading knowledge of the ancient classics. More hope is held out to classes in Latin and Greek, that they may, with attentive effort, attain to such mastery. There is much difference of opinion among leading teachers as to the proportionate attention to be paid to "sight reading;" and as to the value of the inductive method in the mastery of grammatical principles: but actual practice seems to be tending slowly toward a middle course, which retains much of the old-time thorough discipline in Latin and Greek grammar, but brings this training into more vital connection with the study of classic literature. The writing of Latin verse is generally discarded. Prose composition is receiving increased attention, and is now more imitative in its character than formerly, being commonly based on the Latin or Greek masterpiece which the class is studying at the same time. The question of approaching Attic through modern Greek has been warmly discussed, but the proposed change finds little, if any, acceptance in actual practice. In mathematics, much stress is laid upon the original demonstration of theorems, particularly in plane and solid geometry. It appears from time to time that instruction in mathematics is weakened by a failure to insist upon the use of accurate language in demonstrations; and from time to time fresh efforts are put forth to strengthen the work on this side. At the present day, especial stress is laid in some quarters upon the need of more careful and accurate English expression in all school exercises. The attempt to teach English expression, oral and written, wholly through the medium of instruction in other branches does not promise well; but there is, fortunately, a growing recognition of the fact that all teachers must have at least some share in the responsibility for such instruction.

MORAL VALUES

The moral influence of secondary schools is undoubtedly the most important topic to be considered in this paper, but it is at the same time the most difficult to reduce to accurate statement. The religious background of moral instruction has already been referred to. It should be added that even in public high schools, from which all instruction in sectarian dogmas is strictly excluded, there is not uncommonly found a pervasive religious atmosphere, an influence emanating from the personal character of the instructors. In many of these schools, it is still customary to open the daily session with the reading of a passage from the Bible or the repetition of the Lord's prayer; or with the singing of a devotional or patriotic hymn. But whatever there may be of religious tone and spirit in these schools is of a very general and unobtrusive sort, and far removed from ecclesiasticism. Teachers wholly indifferent to dogmatic religion or in known opposition thereto are freely employed in the schools; but would probably be found to constitute only a small minority of the teaching force of the country. In some schools, elementary ethics is taught, along with elementary psychology, or perhaps economics. But this is unusual. The moral force of the high schools depends, then, mainly on the personal influence of the teachers in their instruction in the ordinary school subjects; on the government of the school; and on the relations of the students one with another.

Some subjects of instruction offer especial advantages as regards the formation of high ideals of conduct. The teaching of literature, and particularly the literature of the mother tongue, is found to be of great value in this respect — the more so, doubtless, when untimely moralizing is dispensed with, and noble sentiments are permitted to make their appeal through the charm of their artistic presentation. Choice works of plastic and pictorial art are rapidly finding their way into our school rooms. There is no systematic study of æsthetics in the school programs. These works of art are expected to accomplish their mission by their mere presence, sometimes supplemented by an informal discussion of their merits; or they serve to reinforce the æsthetic side of instruction in literature and in drawing. In some schools music is steadily cultivated, and holds an honored place.

History is probably, on the whole, the most neglected of the main lines of study in secondary schools; and the moral loss resulting from such neglect is serious. Greek and Roman history is commonly taught, at least in classical courses; but too often in a scrappy and inadequate fashion. Later European history receives some attention. The history of the United States is, perhaps, the most seriously slighted of all. The reason for this seems to be that the history of our own country is studied in the grammar schools; and it is not emphasized by the colleges as an admission subject. But a change for the better is slowly coming over the historical side of our school programs.

Skillful teachers, however, make instruction in all subjects moral — by arousing a pure desire for truth, a spirit of intellectual honesty, a will to work and to overcome difficulties, and a long line of modest and every-day virtues.

The government of our best secondary schools, and even of many of the smaller schools, which are comparatively unknown, presents much which may be regarded with genuine satisfaction. The relations of teachers and students are comparatively informal. There is little consciousness of official or artificial barriers between them. While strict disciplinary measures are often found necessary and are often enforced with vigor, the prevalent type of high school and academy government is that which treats the students as if they were already ladies and gentlemen, and throws them as far as possible on their own responsibility. Some interesting and successful experiments have been made in the organization of regular systems of self-government among students. It would seem, however, that only a principal who has the strength and skill to govern well is capable of making a school into a truly self-governing body.

Under any system of government, the social life of the school is the chief teacher of morals. It is one of the glories of American high schools that the children of rich and poor, of high and low, meet there on common ground. The fact that tuition in these schools is free to all, helps to bring about this result. It is unnecessary to point out the numberless bearings of this democratic spirit in the schools upon the pupils who are subject to its influence.

There is undoubtedly a growing disposition among families of wealth and high social position, to send their children to private schools ; and this fact has tended of late to the increase of such schools. This disposition is, however, by no means universal. And while the atmosphere of a private boarding school is necessarily different from that of a public high school, it may be questioned whether in the great endowed schools of the country there is any marked encouragement given to purely aristocratic tastes and tendencies. The principals of boarding schools find it necessary at times to protest against providing students with too lavish a supply of spending money. And the fact that such protests are heard seems to indicate that there is a serious effort on the part of school authorities to minimize distinctions based on wealth.

STUDENTS

The social organization of the students in these schools calls for further notice. High schools and academies are much alike in this respect. The instinct of association is strong in our youth, and it finds expression in all sorts of clubs, leagues, societies, and fraternities. The example of the colleges has been influential in the schools in this particular. The several classes are commonly organized, with class officers, and have occasional gatherings of a social character. The offices of the highest class in school are sought for with keen competition. Athletic associations, foot-ball and base-ball clubs, and the like, are usually maintained. Match games are played with neighboring schools, which call forth unbounded enthusiasm. Several schools are often joined in an athletic league; and the annual field days of these leagues are great occasions in the school year. The athletic records and trophies of a school are very highly prized. Well-equipped gymnasiums are now common in the larger schools, and provision for military drill is sometimes found; but formal exercises do not take the place of free competitive games. Debating clubs and other literary societies are maintained with much interest. Contests in debate with neighboring schools call forth a spirit of emulation like that displayed in athletic struggles. Musical organizations are perhaps less common, but are among the most pleasing of school societies. Annual publications by successive classes present a record of the varied interests of the larger schools, and afford a field for budding literary and artistic genius to show its quality. Secret, Greek-letter societies are sometimes formed after the fashion of the colleges. Not unfrequently, too, voluntary associations for religious culture and observance are maintained by the students. All of these organizations are commonly under the immediate control of the students themselves; teachers frequently attend the various meetings, but more as friendly advisers than as governors.

The completion of the course of study in a secondary school is celebrated in public with "graduation" exercises and the conferring of diplomas upon the members of the class. The graduates of a flourishing school will usually be found organized in an alumni association. The monthly or annual meetings of such an association become of increasing significance as the years pass and its numbers and influence are enlarged.

TEACHERS

A committee of the National educational association — the so-called committee of fifteen on elementary education — reported in 1895, among other topics, on the training of teachers for secondary schools. This committee declared that, "The degree of scholarship required for secondary teachers is by common consent fixed at a collegiate education." They proposed a course of special training for such teachers, consisting of instruction during the senior year of the college course in psychology, methodology, school systems, and the history, philosophy, and art of education; and a graduate year of practice in teaching, under close supervision, supplemented by advanced studies in educational theory.

This proposal is far in advance of common practice or requirement. Very few of the American states make any specific requirement for the high school teacher's certificate beyond that for a license to teach in the elementary schools. There are, on the other hand, many secondary schools in which teachers rarely obtain employment, if at all, unless they are college graduates; and there are large sections of the country in which common usage is rapidly tending in this direction.

The most of the leading universities and some of the higher normal schools are devoting especial attention to the professional training of teachers for schools of this grade. A committee of university professors, appointed for this purpose, has recently published a report, setting forth the existing legal provisions for the certification of high school teachers in the several states, and recommending practicable reforms.

A Massachusetts report for the year 1897 shows that one per cent of the high school teachers then employed in that state were graduates of scientific schools, 13 per cent of normal schools, 66 per cent of colleges, and the remaining 20 per cent unclassified.

In the state of New York, in 1898, 32 per cent of the teachers in secondary schools (not including principals) were college graduates, 39 per cent were normal school graduates, 19 per cent were high school graduates, and 10 per cent had had other training. Of the principals, 51 per cent were college graduates, 35 per cent normal school graduates, 8 per cent high school graduates, and 6 per cent had had other training. These figures include private academies as well as public high schools. They include also one-year, two-year, and three-year schools, as well as fully-developed high schools and academies.

An inquiry into the preparation of teachers in the secondary schools of California, in October, 1897, showed that of 522 teachers then employed in the public high schools of the state, 308, or 59 per cent, were college graduates.

These figures may be taken as representing the conditions which obtain in some of the more favored sections of the country.

STATE SYSTEMS

The several states have been slow to organize general systems of secondary schools. In this respect secondary education stands in marked contrast with that of elementary grade. But a few of the states have made considerable progress in this particular.

The early history of secondary schools in Massachusetts has already been told. This state is the foremost in the union in the universality of its provision for secondary education. Every "town" (township) in the state is required by law to provide free high school tuition for all students who are prepared for that grade of instruction. Inasmuch as the whole state is divided into towns, this means that free secondary education is offered to every child in the commonwealth. Of the 353 towns in the state, 185 are required by law to maintain high schools; 70 others maintain high schools, though not required to do so; and those not maintaining such high schools are required to pay the tuition fees of qualified students within their limits who go elsewhere for high school instruction — and may pay for their transportation also. The poorer towns receive help from the state in paying for tuition in outside schools. The high schools must offer a four-year course, of forty weeks to the year. They must prepare pupils for the state normal schools, and for higher scientific schools and colleges. There are 262 of these high schools in the state, employing 1,312 teachers. In 1897 Massachusetts paid $12,390,638 for public schools, of which $2,400,000, or 19 per cent, was for high schools. In 1896, the total municipal tax in the state was $15.23 on $1,000. Of this, $4.72 was for public schools, $0.91 of which was for high schools. These figures include the cost of school buildings along with the current expense of schools.

The organization of the university of the state of New York has been mentioned. Only so much of the varied activity of this great institution calls for notice here, as has to do with secondary schools. This, however, presents the most thoroughly organized state system of secondary education which has yet been developed on American soil. All incorporated secondary schools in the state and all other secondary schools which may, after official inspection, be admitted to membership by the regents, are institutions of the university. One of the six departments into which the work of the regents is divided is the high school department, which has to do with high schools, academies, and all interests of secondary education. Both the college and the high school department are under one department director. He is assisted by nine inspectors of schools, one of whom is employed as an inspector of apparatus, and by a large staff of examiners.

On the basis of reports made by this department, the regents distributed in 1898 a total of $209,250.48 in state funds to the secondary schools of the state. The method of distribution is as follows: (a) $100 is allotted to each school approved by the regents, without regard to its size or special attainments. (b) One cent is allowed for each day's attendance of each student in such schools; provided that each student so counted must hold a "regents' preliminary certificate" for admission to the school, or the school must be approved by two university inspectors, as having a higher entrance requirement than the minimum prescribed for the preliminary certificate. (c) The state duplicates the amount raised by the schools for the purchase of approved books and apparatus up to the sum of $500 a year for any one school. (d) Grants are made on the basis of credentials obtained by pupils in the school who pass the regents' examinations — a method of "payment by results". In 1898, of the money distributed by the regents to secondary schools, about 25 per cent came under item (a); 22 per cent under item (b); 19 per cent under item (c); and 34 per cent under item (d).

The regents' examinations are held three times a year. They were taken in 1898 by 608 of the 645 secondary schools in the university. The diplomas issued by the regents to graduates of secondary schools are accepted by Cornell university and by other institutions of higher education in the state, in lieu of entrance examinations in the subjects which they cover. The report of the director of the high school department for 1898 says of the examinations: "In June 1898 the secretary stated to the regents that 10 years' experience had confirmed his views, given to the board in 1889, that examinations have the highest educational value and that the small minority which would abolissh them are extremists. It is believed, however, that these tests would be more valuable if they were used for their educational value and not at all as a guide in distributing public money. Inspection will enable us in most cases to determine satisfactorily without regents examinations whether a school is maintaining a standard deserving aid from state funds."

A syllabus is issued by the regents for the guidance of instruction in university institutions. There is free consultation between the officers of the university and the instructors in the schools with reference to the contents of this syllabus. An annual university convocation, in which the representatives of all divisions of the university meet for public discussion, forms one of the notable educational gatherings of the country.

In Maryland, a law of the year 1865 swept away the old academy system, and substituted for it a system of county high schools. This radical change was followed by a reaction. Later legislation took a middle course. A law enacted in 1872 provided for the establishment of high schools in the several counties, to be under the control of the boards of county school commissioners, or of district boards appointed by them. Each of these high schools must be "visited and examined annually by the principal of the State normal school, or a professor thereof," and must also be visited once in each term by the county examiner. The support of these high schools is provided for by the county school commissioners, who set apart for that purpose a portion of the ordinary school funds received from the state and the county. At the same time, a number of academies, about twenty in all, continue to receive direct donations, in various fixed amounts, from the treasury of the state.

We find in Indiana what is virtually a system of university accrediting of high schools, the administration of which has been turned over to the state board of education. In July, 1873, the board of trustees of Indiana university adopted a resolution to the effect that a certificate "from certain high schools" should entitle the bearer to admission to the freshman class. In August of the same year, the state board of education adopted plans under which the high schools which were worthy of such recognition should be designated and commissioned. In 1888 the following order was passed: "That hereafter no high school commission be granted except on a favorable report in writing, to be made to the state board of education, by some member of the state board, who shall visit the high school in question as a committee of the state board for that purpose.

"That all the high schools now in commission be visited by committees of the board as soon as may be, and that the present list be modified by the reports from such visitation.

"That in case of change of superintendent in any commissioned high school, the commission then existing shall be in force until a visitation shall be made by a committee of the state board."

The territory of the state was divided up among the members of the board for the purposes of such visitation.

By such simple means and without specific legal enactment, an important system of high schools has been built up. These schools rest upon a statutory provision authorizing local school authorities to provide for the teaching, not only of the elementary branches, in English, but also of "such other branches of learning and other languages as the advancement of the pupils may require." They are supported in the same manner as the elementary schools.

The supervisory power of the state board of education is secured by the broad provision that, "said board shall take cognizance of such questions as may arise in the practical administration of the school system not otherwise provided for, and duly consider, discuss, and determine the same."

This board consists of the governor of the state, the state superintendent of public instruction, the respective presidents of the State university, Purdue university, and the State normal school, the school superintendents of the three largest cities in the state, *ex officio*, and "three citizens of prominence actively engaged in educational work in the state, appointed by the governor." A four-year course of study for high schools, prepared by this board, is recommended for adoption by all schools which seek to be placed on the "commissioned high schools" list. The board announces that commissions will be granted to those high schools only which meet the following requirements:

1. The character of the work must be satisfactory.

2. The high school course must be not less than thirty months in length, counting from the end of the eighth year.

3. The whole time of at least two teachers must be given to the high school work.

4. The course of study must be at least a fair equivalent of that recommended by the state board.

It will be seen that this system provides for inspection of the schools only at long and irregular intervals. In practice, this defect is partially overcome by the close oversight which the universities exercise over those members of their freshman classes who enter on certificates from the schools. Such students are understood to be admitted to the university for a probationary period, in which they may show whether or not they have been properly prepared for the work they have undertaken.

The interest in secondary education which has grown up under this system has extended to all sections of the state. There are now 151 high schools on the "commissioned" list, including those of the more populous centers. There is growing up, also, a large number of "township high schools" in the more sparsely settled portions of the state. In 1891, there were 125 such schools with an enrollment of 920 pupils. In 1898, the number had grown to 389, with an enrollment of 8,459 pupils. Seven of these schools have been placed on the "commissioned" list.

The Wisconsin state system of free high schools was established in 1875. It provides for the maintenance of high schools by towns, incorporated villages, cities, or school districts or sub-districts containing incorporated villages or two-department graded schools within their limits. Two or more adjoining towns, or one or more towns and an incorporated village, may unite in establishing and maintaining a high school. These schools are managed by local high school boards, which are commonly, but not always, identical with the boards for elementary schools. They are supported primarily by local taxation; but a district is entitled to receive from the general fund of the state a sum not exceeding one-half the amount actually expended for instruction in the high school of such district, and not exceeding five hundred dollars in any one year; provided the school has been kept in accordance with certain requirements prescribed by law, and provided further that the total amount paid from the state treasury for this purpose in any one year shall not exceed fifty thousand dollars. Such a school is under the direct inspection and oversight of the state superintendent. To receive state aid, a school must establish and maintain a course of study prescribed, or at least approved, by that official; and must be taught by teachers whose certificates he has approved. The state superintendent issues a manual for the guidance of these schools, containing general suggestions, courses of study, an outline of subjects and methods of instruction, and the text of the high school law. He is assisted in the visitation and supervision which the law prescribes by an inspector of free high schools, whom he appoints.

An effort has been made in Wisconsin to encourage the building up of high schools in the less thickly settled portions of the state. This undertaking has met with only a moderate degree of success. Here as elsewhere it has been found difficult to promote the general establishment of such schools by other units of civil administration than those which establish and maintain elementary schools. In Wisconsin the elementary schools are governed and supported by district school authorities, and not by township boards.

In the cities and towns of Wisconsin, the high schools are making marked progress, under the system of state supervision. Within the past few years, many of them have been housed in fine, new buildings, provided with excellent laboratories for instruction in the natural sciences. Important beginnings have been made also in the equipment of some of the schools for courses in manual training. State aid, to the amount of $250 a year for any one school, is extended to such courses by special provisions of the high school law. In the spring of 1899 six schools were receiving such special aid. At the same time there were in all 211 state-aided high schools in Wisconsin. Of these 56 had a three-year course and 155 a course four years in length. Of the four-year schools, 110 were accredited to the University of Wisconsin. The accrediting system was introduced by the university in 1878, and is carried on independently of the state system of inspection. About a dozen of the largest and strongest high schools in the state are not included among those receiving state aid.

The courses of study are commonly designated as the English, the general science, the modern classical, and the ancient classical course. A given school will ordinarily establish the English course first, and will from time to time add the others in the order named. There were in 1899 ten schools in the state which carried the full classical course.

Minnesota has maintained a state system of high schools since 1881. At the head of this system stands the state high school board, consisting of the governor, the superintendent of public instruction, and the president of the University of Minnesota, *ex officio.* This board appoints a high school inspector and a graded school inspector. Any public high school in the state may become a state high school, and is then entitled to receive from the state the sum of eight hundred dollars annually. To be a state high school, it must admit students of either sex from any part of the state without charge for tuition, must provide a course of study covering the requirements for admission to the University of Minnesota, and must be subject to the rules and open to the inspection of the state high school board. This board determines, on the basis of the reports of its inspector, what schools are entitled to the bounty of the state; but not more than five schools may receive such aid in any one county in any one year. Provision is also made for state graded schools, of lower rank than the state high schools; and for the promotion of such schools to the rank of state high schools when they have attained such a degree of advancement as to entitle them to that designation.

The state high school board conducts a written examination of classes in the schools twice a year. Students who successfully pass such examinations, in any of the high school subjects, receive certificates for the subjects so covered; and these certificates are accepted by the university and the normal schools of the state in lieu of entrance examinations in the subjects specified. The taking of this state examination is ordinarily optional with the school; and no grants of money are based on examination results. The state board may, however, require a school to take an examination as a part of the annual inspection. "The main purpose of state examinations", as stated by the inspector of high schools in his report for 1898, "is not to test the students, but to promote the general efficiency of the schools."

Perhaps the most significant thing about the Minnesota system is the encouragement it gives to high schools in the smaller towns. Communities all over the state tax themselves freely to supplement the bounty distributed by the state board.

Laboratory apparatus for the high schools is made at the state prison and sold to the schools at cost. For the year 1898–99, there were 110 graded schools and 97 high schools, under the supervision of the state high school board.

Several other states have made marked advance within the past few years in the direction of improved systems of secondary schools. These improvements have been gained through the untiring efforts of devoted friends of education, and should receive notice in such a place as this. But lack of space forbids. There is reason to regret, along with this omission, the unavoidable passing over of influential movements and important institutions which are in every way deserving of mention along with those which have been noticed; but the time has been wanting to consider fully the proportionate importance of these things, as well as the space for a full exposition of them all.

STATISTICS

Through the courtesy of the United States commissioner of education, the following statistics for the whole country for the year 1897–98 are presented in advance of their publication by the bureau of education :

TABLE I

STATISTICS OF SECONDARY SCHOOLS FOR 1897–98

	Public high schools	Private high schools	Public and private high schools
Number of schools reporting...	5 315	1 990	7 305
Teachers of secondary students.	17 941	9 357	27 298
Male......................	8 542	4 075	12 617
Female	9 399	5 282	14 681
Secondary students..........	449 600	105 225	554 825
Male......................	189 187	52 172	241 359
Female	260 413	53 053	313 466
Secondary students preparing for college...............	51 066	26 693	77 759
Classical course.............	27 935	16 361	44 296
Male.....	13 575	11 128	24 703
Female	14 360	5 233	19 593
Scientific courses...........	23 131	10 332	33 463
Male.....................	12 056	7 429	19 485
Female	11 075	2 903	13 978
Graduates in the class of 1898..	53 022	12 148	65 170
Male......................	19 247	6 302	25 549
Female	33 775	5 846	39 621
College preparatory students in the graduating class.......	14 552	5 388	19 940
Male..............	6 699	3 628	10 327
Female	7 853	1 760	9 613

TABLE II

STUDENTS IN CERTAIN COURSES AND STUDIES IN PUBLIC HIGH SCHOOLS IN 1897–98

COURSES, STUDIES, ETC.	Number students	Per cent to total number secondary students	Male students	Per cent to total number male students	Female students	Per cent to total number female students
Students preparing for college :						
Classical course	27 935	6.21	13 575	7.18	14 360	5.52
Scientific courses	23 131	5.15	12 056	6.37	11 075	4.25
Total preparing for college	51 066	11.36	25 631	13.55	25 435	9.77
Graduating in 1898	53 022	11.79	19 247	10.17	33 775	12.97
College preparatory students in graduating class[1]	14 552	27.45	6 699	34.81	7 853	23.25
Students in						
Latin	223 307	49.67	87 529	46.27	135 778	52.14
Greek	14 021	3.12	7 656	4.05	6 365	2.44
French	33 917	7.54	12 006	6.35	21 911	8.41
German	59 577	13.25	23 336	12.34	36 241	13.92
Algebra	252 358	56.13	106 676	56.39	145 682	55.94
Geometry	121 813	27.09	49 787	26.32	72 026	27.66
Trigonometry	10 200	2.27	4 966	2.63	5 234	2.01
Astronomy	17 170	3.82	6 351	3.36	10 819	4.15
Physics	93 038	20.69	39 493	20.88	53 545	20.56
Chemistry	37 329	8.30	16 450	8.70	20 879	8.02
Physical geography	112 133	24.94	47 074	24.88	65 059	24.98
Geology	19 646	4.37	7 725	4.08	11 921	4.58
Physiology	134 785	29.98	57 392	30.34	77 393	29.72
Psychology	12 325	2.74	4 355	2.30	7 970	3.06
Rhetoric	161 724	35.97	66 949	35.39	94 775	36.39
English literature	180 156	40.07	74 014	39.12	106 142	40.76
History (other than United States)	169 478	37.70	69 636	36.81	99 842	38.34
Civics	102 242	22.74	43 997	23.26	58 245	22.37

[1] Per cent to number of graduates.

TABLE III

STUDENTS IN CERTAIN COURSES AND STUDIES IN PRIVATE HIGH SCHOOLS AND ACADEMIES IN 1897–98

COURSES, STUDIES, ETC.	Number students	Per cent to total number secondary students	Male students	Per cent to total number male students	Female students	Per cent to total number female students
Students preparing for college:						
Classical course.....	16 361	15.54	11 128	21.33	5 233	9.86
Scientific courses....	10 332	9.82	7 429	14.23	2 903	5.47
Total preparing for college...........	26 693	25.36	18 557	35.56	8 136	15.33
Graduating in 1898....	12 148	11.54	6 302	12.08	5 846	11.02
College preparatory students in graduating class[1]...........	5 388	44.35	3 628	57.57	1 760	30.11
Students in						
Latin................	50 986	48.45	27 908	53.49	23 078	43.50
Greek	10 973	10.43	8 983	17.21	1 990	3.75
French	24 248	23.04	8 682	16.64	15 566	29.34
German	19 417	18.45	9 719	18.63	9 698	18.28
Algebra	54 397	51.70	29 470	56.49	24 927	46.99
Geometry...........	25 702	24.43	14 791	28.35	10 911	20.57
Trigonometry	5 519	5.25	3 447	6.61	2 072	3.91
Astronomy	7 263	6.91	2 188	4.19	5 075	9.57
Physics	20 612	19.59	10 230	19.61	10 382	19.57
Chemistry	10 119	9.62	4 991	9.57	5 128	9.67
Physical geography.	22 849	21.79	10 555	20.23	12 294	23.17
Geology	6 205	5.90	2 506	4.80	3 699	6.97
Physiology	28 205	26.80	12 561	24.08	15 644	29.49
Psychology	7 873	7.48	2 814	5.39	5 059	9.54
Rhetoric............	34 124	32.43	15 164	29.07	18 960	35.74
English literature...	35 654	33.88	15 709	30.11	19 945	37.59
History............	39 556	37.59	18 346	35.16	21 210	39.98
Civics	16 565	15.74	7 975	15.29	8 590	16.19

[1] Per cent to number of graduates.

TABLE IV[1]

STUDENTS IN CERTAIN COURSES AND STUDIES IN PUBLIC AND PRIVATE HIGH SCHOOLS AND ACADEMIES IN 1897–98

COURSES, STUDIES, ETC.	Number students	Per cent to total number secondary students	Male students	Per cent to total number male students	Female students	Per cent to total number female students
Students preparing for college:						
Classical course	44 296	7.99	24 703	10.24	19 593	6.25
Scientific courses	33 463	6.03	19 485	8.07	13 978	4.46
Total preparing for college	77 759	14.02	44 188	18.31	33 571	10.71
Graduating in 1898	65 170	11.75	25 549	10.59	39 621	12.64
College preparatory students in graduating class[2]	19 940	30.60	10 327	40.42	9 613	24.26
Students in						
Latin	274 293	49.44	115 437	47.83	158 856	50.68
Greek	24 994	4.50	16 639	6.89	8 355	2.67
French	58 165	10.48	20 688	8.57	37 477	11.96
German	78 994	14.24	33 055	13.70	45 939	14.66
Algebra	306 755	55.29	136 146	56.41	170 609	54.43
Geometry	147 515	26.59	64 578	26.76	82 937	26.46
Trigonometry	15 719	2.83	8 413	3.49	7 306	2.33
Astronomy	24 433	4.40	8 539	3.54	15 894	5.07
Physics	113 650	20.48	49 723	20.60	63 927	20.39
Chemistry	47 448	8.55	21 441	8.88	26 007	8.30
Physical geography	134 982	24.33	57 629	23.88	77 353	24.68
Geology	25 851	4.66	10 231	4.24	15 620	4.98
Physiology	162 990	29.38	69 953	28.98	93 037	29.68
Psychology	20 198	3.64	7 169	2.97	13 029	4.16
Rhetoric	195 848	35.30	82 113	34.02	113 735	36.28
English literature	215 810	38.90	89 723	37.18	126 087	40.22
History (other than United States)	209 034	37.68	87 982	36.45	121 052	38.62
Civics	118 807	21.41	51 972	21.53	66 835	21.32

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[1] Result of combing tables II and III.

[2] Per cent to number of graduates.

TABLE V

NUMBER AND PER CENT OF STUDENTS PURSUING CERTAIN STUDIES IN PUBLIC AND PRIVATE SECONDARY SCHOOLS, 1890 TO 1898, IN FOUR-YEAR PERIODS.

	1889–90		1893–94		1897–98	
	Number of students	Per cent to total	Number of students	Per cent to total	Number of students	Per cent to total
Total number of secondary students...	297 894	....	407 919	....	554 814	
Number studying						
Latin..............	100 144	33.62	177 898	43.59	274 293	49.44
Greek..............	12 869	4.32	20 353	4.99	24 994	4.50
French	28 032	9.41	42 072	10.31	58 165	10.45
German............	34 208	11.48	52 152	12.78	78 994	14.24
Algebra	127 397	42.77	215 023	52.71	306 755	55.29
Geometry	59 789	20.07	103 054	25.25	147 515	26.59
Trigonometry.. ...	....	....	15 500	3.80	15 719	2.83
Physics............	63 644	21.36	97 974	24.02	113 650	20.48
Chemistry.........	28 665	9.62	42 060	10.31	47 448	8.55

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DEPARTMENT OF EDUCATION
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MONOGRAPHS ON EDUCATION
IN THE
UNITED STATES

EDITED BY
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5

THE AMERICAN COLLEGE

BY

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THIS MONOGRAPH IS CONTRIBUTED TO THE UNITED STATES EDUCATIONAL EXHIBIT BY THE STATE OF NEW YORK.

THE AMERICAN COLLEGE

I ITS PLACE AND IMPORTANCE

The American college has no exact counterpart in the educational system of any other country. The elements which compose it are derived, it is true, from European systems, and in particular from Great Britain. But the form under which these elements have been finally compounded is a form suggested and almost compelled by the needs of our national life. Of course it is far from true to say that American colleges have been uninfluenced in their organization by European tradition. On the contrary, the primary form of organization found in our earliest colleges, such as Harvard, Yale and Princeton, is inherited from the collegiate life of the University of Cambridge. But it was subjected to modification at the very beginning, in order to adapt the infant college to its community, and progressively modified from time to time in order to keep in close sympathy with the civil, ecclesiastical and social character of the growing American nation. The outcome of all this has been an institution which, while deriving by inheritance the elements of its composition, and in some sense its form, has managed to develop for itself a form of organization which notably differs from the old-world schools.

Moreover the college, as might be expected from the foregoing considerations, occupies the place of central importance in the historic outworking of American higher education, and remains to-day the one repository and shelter of liberal education as distinguished from technical or commercial training, the only available foundation for the erection of universities containing faculties devoted to the maintenance of pure learning, and the only institution which can furnish the preparation which is always desired, even though it is not yet generally exacted, by the better professional schools. Singularly enough, but not unnaturally, the relation of directive influence sustained to-day by our colleges to the university problem is not unlike the relation held in the middle ages by the inferior faculty of arts at the University of Paris to the affairs of the university as a whole.[1] The points of resemblance are marked and are of a generic character. In both cases the college, or faculty of arts, appears as the preliminary instructor in the essentials of liberal education. In both cases this earlier education is recognized as the proper prerequisite for later study in the professional faculties. In both cases the inferior faculty, even if still undeveloped or but partially developed, contains the germ of the higher university faculty of pure learning, the faculty of arts, sciences and philosophy. In this there is much that is remarkable, but nothing novel. For the American college in this respect merely perpetuates and develops a fundamental tradition of liberal learning, which found its way from Paris through Oxford to Cambridge, and then from Cambridge to our shores. The parallel of our college history with the old-world history holds good in other important respects, and would be most interesting to trace. Still, in order to understand the precise nature and unique influence of the college in American education, it is not necessary here to trace step by step the story of its development, for in its various forms of present organization it reveals not only the normal type which has been evolved, but also survivals of past stages of development, instances of variation and even of degeneration from the type, and interesting present experiments which may to some extent foreshadow the future.

II THE OLD FASHIONED COLLEGE

The three commonly accepted divisions of education into the primary, secondary and higher stages, while fully recognized in America, are not followed rigorously in our organization. The primary education is more clearly separable from the secondary than is the secondary from the higher or university stage. The chief cause for this partial blending, or perhaps confusion, of the secondary and higher stages is the college. However illogical and even practically indefensible such a mixture may appear in the eyes of some very able critics, it is still true that the historical outworking of this partial blending of two different things, commonly and wisely separated in other systems, has been compelled by the exigencies of our history and has at the same time been fruitful in good results.

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[1] Rashdall: Universities of Europe in the Middle Ages. Chap. I, p. 318.

Let us then take as the starting point of our inquiry the fact that the American college, as contrasted with European schools, is a composite thing — partly secondary and partly higher in its organization. It consists regularly of a four-year course of study leading to the bachelor's degree. Up to the close of the civil war (1861–1865) it was mainly an institution of secondary education, with some anticipations of university studies toward the end of the course. But even these embryonic university studies were usually taught as rounding out the course of disciplinary education, rather than as subjects of free investigation. Boys entered college when they were fifteen or sixteen years of age. The average age of graduation did not exceed twenty years. The usual course of preparation in the best secondary schools occupied four years, but many students took only three or even two years. In the better schools they studied Latin and Greek grammar, four books of Cæsar, six books of Virgil's Æneid, six orations of Cicero, three books of Xenophon's Anabasis and two of Homer's Iliad, together with arithmetic, plane geometry (not always complete) and algebra to, or at most through, quadratic equations. There were variations from this standard, but in general it may be safely asserted that the Latin, Greek and mathematics specified above constituted as much as the stronger colleges required for entrance; while many weaker ones with younger students and lower standards were compelled to teach some of these preparatory studies in the first year or the first two years of the college course. With but few and unimportant exceptions the four-year course consisted of prescribed studies. They were English literature and rhetoric, Latin, Greek, mathematics, natural philosophy, chemistry, the elements of deductive logic, moral philosopy, and political economy, and often a little psychology and metaphysics. Perhaps some ancient or general history was added. French and German were sometimes taught, but not to an important degree. At graduation the student received the degree of bachelor of arts, and then entered on the study of law, medicine or theology at some professional school, or went into business or into teaching in the primary or secondary schools. Such was, in barest outline, the scheme of college education a generation ago.

III THE COLLEGE OF TO-DAY; PROPOSALS TO SHORTEN THE COURSE

At the present time things are very different. With the vast growth of the country in wealth and population since the civil war there has come a manifold development. The old four-year course, consisting entirely of a single set of prescribed studies leading to the one degree of bachelor of arts, has grown and branched in many ways. It has been modified from below, from above and from within. The better preparation now given in thousands of schools has enabled colleges to ask for somewhat higher entrance requirements and, what is more important, to exact them with greater firmness. The age of entrance has increased, until at the older and stronger colleges the average is now about eighteen and a half years. A four-year course leading to a bachelor's degree remains, although in some quarters the increasing age of the students is creating a tendency to shorten the course to three years, in order that young men may not be kept back too long from entering upon their professional studies. It was an easy thing a generation ago for young men to graduate at twenty, and a bright man could do it earlier without difficulty. After two or three years spent in studying law or medicine he was ready to practice his profession, and then began to earn his living at the age of twenty-two or twenty-three. This was within his reach. But to-day a college student is twenty-two years old at graduation — as old as his father or grandfather were when they had finished their professional studies. If he follows in their steps, he must wait until he is twenty-five to begin earning his living. Accordingly boys are now passing in considerable numbers directly from secondary schools, which do not really complete their secondary education, to the professional schools, thus omitting college altogether. If this continues the effect both on colleges and professional schools will be discouraging. The problem is an economic one, and it is affecting college courses of study. One solution, as suggested above, is to shorten the course to three years. This has been advocated by President Eliot of Harvard. Three years is the length of the course in the undergraduate college established in connection with the Johns Hopkins university. Another proposal is to keep the four-year course and allow professional in place of liberal studies in the last year, thus enabling the student to save one year in the professional school. This experiment is being tried at Columbia. A third proposal is to keep the college course absolutely free from professional studies, but to give abundant opportunities in the last year or even the last two years to pursue the liberal courses which most clearly underlie professional training, thus saving a year of professional study. That is, teach jurisprudence and history, but not technical law, or teach chemistry and biology, but not technical medicine, or teach Greek, oriental languages, history and philosophy, but not technical theology. This seems to be the trend of recent experiments in Yale and Princeton. The one common consideration in favor of all these proposals is that a year is saved. Against the three-year course, however, it is argued that there is no need to abolish the four-year course in order to save a year. Against the admission of professional studies it is argued that work done in a professional school ought not to count at the same time toward two degrees representing two radically different things. Against the proposal to allow the liberal studies which most closely underlie the professions, it is argued that this is a half-way measure, after all. Nevertheless for the present, and probably for a long time in most colleges, the four-year course is assured.

IV ALTERATIONS IN THE CONTENT OF THE COURSE AND IN THE MEANING OF THE BACHELOR'S DEGREE

The four-year course, however, no longer leads solely to the degree of bachelor of arts, nor has this old degree itself remained unmodified. With the founding of schools of science, aiming to give a modern form of liberal education based mainly on the physical and natural sciences, and yet only too often giving under this name a technological course, or a somewhat incongruous mixture of technical and liberal studies, the degree of bachelor of science came into use as a college degree. Then intermediate courses were constituted, resting on Latin, the modern languages, history, philosophy, mathematics and science, and thus the degree of bachelor of letters or bachelor of philosophy came into use. Sometimes the various courses in civil, mechanical, mining or electrical engineering were made four-year undergraduate courses with their corresponding engineering degrees virtually rated as bachelor's degrees. Still other degrees of lesser importance came into vogue and obtained a footing here and there as proper degrees to mark the completion of a four-year college course. The dispersing pressure of the newer studies and the imperious practical demands of American life proved too strong either to be held in form or to be kept out by the barriers of the old course of purely liberal studies with its single and definite bachelor of arts degree. New degrees were accordingly added to represent the attempted organization of the newer tendencies in courses of study according to their various types. The organization of such courses was naturally embarrassed by grave difficulties which are as yet only partially overcome. Compared with the old course they lacked and still lack definiteness of structure. They aimed to realize new and imperfectly understood conceptions of education, and were composed of studies whose inner content was changing rapidly, as in the case of the sciences, or else were "half-and-half" forms of education, difficult to arrange in a system that promised stability, as in the case of studies leading to the bachelor of letters or bachelor of philosophy. A graver source of trouble, in view of the too fierce practicality of American life, was the admission of various engineering and other technical studies as parallel undergraduate courses, thus tending to confuse in the minds of young students the radical distinction between liberal and utilitarian ideals in education, and tending furthermore, by reason of the attractiveness of the "bread-and-butter" courses, to diminish the strength of the liberal studies. When in addition it is remembered that the newer courses, whether liberal, semiliberal or technical, which found a footing of presumed equality alongside of the old bachelor of arts course, exacted less from preparatory schools in actual quantity of school work necessary for entrance into college, it will be seen that the level of preparation for college was really lowered.

The present drift of opinion and action in colleges which offer more than one bachelor's degree is more reassuring than it was some twenty years ago. There is a noticeable tendency, growing stronger each year, to draw a sharp line between liberal and technical education and to retain undergraduate college education in liberal studies as the best foundation for technical studies, thus elevating the latter to a professsional dignity comparable with law, medicine and divinity. The more this conception prevails, the more will college courses in engineering be converted into graduate, or at least partially graduate courses. No doubt most independent schools will continue to offer their courses to young students of college age, but where such schools have been associated as parts of colleges or universities the tendency to a clearer separation of technical from liberal studies in the manner indicated above seems likely to prevail. If this happy result can be considered assured, then the undergraduate college course, the sole guarantee of American liberal culture, will have a good chance to organize itself in accordance with its own high ideals, however imperfectly it may have realized these ideals in the past.

Another hopeful tendency which is gradually gathering strength is to give the various bachelor's degrees more definite significance by making them stand for distinct types of liberal or semi-liberal education. Three such types or forms are now slowly evolving out of the mass of studies with increasing logical consistency. First comes the historical academic course, attempting to realize the idea of a general liberal education, and consisting of the classical and modern literatures, mathematics and science, with historical, political and philosophical studies added, and leading to the bachelor of arts degree. The second is the course which aims to represent a strictly modern culture predominantly scientific in character, and culminating in the degree of bachelor of science. As this course originated in the demand for knowledge of the applied sciences in the arts and industries of modern life, the ideal of a purely modern liberal culture, predominantly scientific in spirit, was not easy to maintain. On the contrary, the technical aspects of the sciences taught tended more and more to create a demand for strictly technological instruction to the exclusion of the theoretical and non-technical aspects. It is this cause more than any other which has tended to restrict the energies of schools of science to the production of experts in the various mechanical and chemical arts and industries and has caused them to do so little for the advancement of pure science. Conscious of this difficulty, many schools of science have been giving larger place in the curriculum to some of the more available humanistic studies. Fuller courses in French and German have been provided for and the study of English has been insisted upon with sharper emphasis. Economics, modern history and even the elements of philosophy have found place. Some improvement has also been effected by increasing the entrance requirements in quantity of school work. But in spite of all these efforts the course still suffers from an inner antagonism between technical and liberal impulses, and until the bachelor of science course finally settles into a strictly technical form, or else comes to represent a strictly modern liberal culture, its stability cannot be regarded as assured. In the independent scientific schools, unassociated with colleges, it seems probable the course will keep or assume a highly technical form, but wherever it exists side by side with other bachelor's courses as a proposed representative of some form of liberal education, it does seem inevitable that the bachelor of science course will tend to conform to the ideal of a modern culture mainly scientific in character. But even if this result be achieved, the process of achievement promises to be slow and difficult. Few American colleges are strong enough financially to make the experiment, which it must be admitted involves considerable financial risk, and even where the risk may be safely assumed there still remains a serious theoretical difficulty in realizing this form of liberal education. The antagonism between the technical and liberal impulses in the course seems very difficult to eliminate completely. For if the question be asked, Why should an American college student seek as his liberal education the studies which represent a purely modern culture rather than pursue the bachelor of arts course, which professes to stand for a more general culture? the preference of most students will be found to rest upon their instinct for something useful and immediately available, rather than on a desire for things intellectual. This constantly militates against devotion to the intellectual value of their modern studies and tends more and more to drag them toward technical standards.

The third aspirant to be considered a type of liberal college education is the course intermediate in character between the two already discussed. It is labeled with the degree of bachelor of letters or bachelor of philosophy. It differs from the other two courses mainly in its treatment of the classical languages. In its desire to placate the practical spirit it drops Greek, but retains Latin both as an aid to general culture and as a strong practical help in learning the modern languages. Notwithstanding its indeterminate and intermediate character, it is serving a valuable end by providing thousands of students, who do not care for the classical languages in their entirety, with a sufficiently liberal form of education to be of great service to them. It is by no means technical in spirit. Judged from the standpoint of the historical bachelor of arts course, it is a less general but still valuable culture. Judged from the standpoint of the bachelor of science course, it appears to escape the unhappy conflict between the technical and liberal impulses and anchors the student somewhat more firmly to fundamental conceptions of general culture.

These three are the principal forms of undergraduate college education which in any degree profess to stand as types of liberal culture in this country at the present time, and they are usually labeled with three different degrees, as already indicated.

But some colleges, following the example of Harvard, have dealt with the bachelor's degree very differently. The degree has been retained as the sole symbol of liberal college education, but the meaning of the degree has been radically altered in order to make it sufficiently elastic to represent the free selections and combinations made by the students themselves out of the whole range of liberal studies. In these colleges it therefore no longer stands for the completion of a definite curriculum composed of a few clearly-related central studies constituting a positive type. What it does stand for is not quite so easy to define, because of the variation of practice in different colleges and the wide diversity in the choice of studies exercised by individual students in any one college. But, generally speaking, it means that the student is free to choose his own studies. In the undergraduate college connected with the Johns Hopkins university at Baltimore choice is regulated by prescribing moderately elastic groups of cognate studies, the student being required to say which group he will choose. In Harvard college the range of choice is restricted in no such way. The student is allowed to choose what he prefers, subject to such limitations as the priority of elementary to advanced courses in any subject, and the necessary exclusions compelled by the physical necessity of placing many exercises at the same time, in order to accommodate the hundreds of courses offered within the limits of the weekly schedule. In Columbia college the degree is still different in respect to the mode of the student's freedom of choice, and especially in the admission of professional studies in the last year of the course. A Columbia student in his senior year may be pursuing his first year's course in law or medicine, and at the same time receiving double credit for this work, both toward the degree of bachelor of arts and toward the professional degree of doctor of medicine or bachelor of laws. These examples are sufficient to indicate the variety of meaning found in colleges which have changed the historical significance of the bachelor of arts degree.

V OTHER PHASES OF CHANGE

Up to this point we have looked at the American college mainly from the outside. We observed in the college of a generation ago an institution of liberal education providing a single four-year course, consisting entirely of prescribed studies for young men from sixteen to twenty years of age, and culminating in one bachelor's degree of fairly uniform intentional meaning. We observe in the college of to-day the developed successor of the earlier college, providing a four-year course consisting generally of a mixture of prescribed and elective studies in widely varying proportions. The average age of the students has increased at least two years, and at the end of the course there is a multiform instead of a uniform bachelor's degree, or in some instances a single bachelor's degree of multiform meaning. To some extent the undergraduate collegian has become a university student. To what extent? is the real question around which a controversy of vital importance is raging.

The profound change indicated by these external symptoms, a change so full of peril in the directions of disintegration and confusion, and yet so full of promise if rationally organized, has been in progress since the civil war, and is still steadily and somewhat blindly working along towards its consummation. An exact estimate of such a state of affairs, a diagnosis which shall at the same time have the value of a prognosis for all colleges, is manifestly impossible at the present time. The difficult thing in any such attempt is not merely to understand the change from a uniform to a multiform mode of life and organization, but to understand what it really is that is changing. This something that is changing is the old-fashioned American college. It seems simple enough to understand what this was, but at the same time it needs to be remembered that the old-fashioned colleges, while aiming to follow out a single course of study ending in a single degree of single meaning, nevertheless did not succeed in exhibiting such close individual resemblance to each other as is to be found, let us say, among the lycées of France, the public schools of England or the gymnasia of Germany. Many so-called colleges really served as preparatory schools for larger and stronger colleges, and many so-called universities did not attain and in fact do not yet attain to the real, though less pretentious dignity of the better colleges. In fact "university," as President Gilman observes, is only too often a "majestic synonym" for "college." To aid in giving as much simplicity and consequent clearness to our view as is necessary to disclose the leading features of the situation, neglecting all the others, we may therefore at once discard from our consideration all except the better colleges which, when taken together, exhibit the dominant tendency.

How, then, have these better colleges changed? Speaking generally, they have changed in a way which reflects the diversified progress of the country, and yet in some sense they have had an important influence in leading and organizing the national progress itself. Then, too, the change is not merely a change of form, but of spirit. In the older days scarcely any college had as many as four or five hundred students, and the range of studies, even if important, was limited. The faculty of the college exercised a strong paternal anxiety and oversight on behalf of the morals and religion, as well as over the studies of the students. The authority of the president was almost patriarchal in character. Not highly developed insight into the problems of education, but plain common sense in governing students was the condition of a successful presidency. The life of the students was mildly democratic, being tempered by the generally beneficent absolutism of the president and the faculty, which in turn was itself tempered by occasional student outbreaks. According to the last report of the United States commissioner of education (1896–97) there are now 472 colleges,[1] excluding those for women only. Seventy-seven of these enroll more than 200 undergraduate students, and of these seventy-seven colleges twenty-four enroll over 500, and eight over 1,000. The range of studies, as already mentioned, has increased. With the strengthening of preparatory courses, the school preparation of students has improved; and at the same time their average age at entrance has risen. The number of professors has multiplied. The old-fashioned college professor, the man of moderate general scholarship and of austere yet kindly interest in the personal welfare of those he taught, still remains; but at his side has appeared more and more frequently the newer type of American college professor, the man of high special learning in some one subject or branch of that subject, who considers it his primary duty to investigate, his next duty to teach, and his least duty to exercise a personal care for the individual students. Perhaps the old type will be replaced by the new. Such a result, however, would not be an unmixed gain, and it is indeed fortunate that our finest college professors to-day endeavor to combine high special attainments as scholars with deep interest in the personal well-being of their students. The authority of the faculty is still sufficient, but is exercised differently. Student self-government is the order of the day, and the more this prevails the less is exercise of faculty authority found to be necessary. With student self-government there has naturally come an increase of intensity in the democratic character of student life. The presidents of our larger colleges, and even of many of the smaller, are becoming more and more administrative officers and less and less teachers. It is no doubt something of a loss that the students should not have the intimate personal acquaintance with the president enjoyed by students a generation ago, but this cannot be avoided in places where a thousand undergraduates are enrolled. Out-door sports have also entered to modify and improve the spirit of our academic life. They have developed their own evils, but at the same time have done wonders for the physical health of the students, the diminution of student disorders and the fostering of an intense *esprit de corps*. In the reaction from the asceticism of our early college life there is little doubt our athletics have gone too far; so far as to divert in a noticeable degree the student's attention from his studies. But it is gratifying to notice that the abuses of college athletics can be corrected, and that they are to some extent self-correcting. It must not be forgotten that unlike his father or grandfather, whose college life was so largely spent indoors, the American student of to-day lives outdoors as much as possible. The moral and religious spirit of the college of to-day is inherited from the old college.

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[1] That is, 472 "colleges and universities." As almost every university, real or nominal, contains a college, the total of 472 colleges is approximately correct.

Nearly all our colleges are avowedly or impliedly Christian. A respectable minority of them are Roman Catholic. The large majority are under Protestant influences, sometimes denominational, but generally of an unsectarian character even in the church colleges. In most of them the student is expected to attend certain religious exercises, such as morning prayers; in many, however, all such attendance is voluntary. The voluntary religious life of the undergraduates finds its expression in various societies, which endeavor to promote the Christian fellowship and life of their members. While moral and religious convictions are freer and sometimes laxer than of old the Christian life in our colleges is real and pervasive.

As a rule the student is so absorbed by the scholastic, athletic and miscellaneous activities of his college that he sees little outside social life. This is particularly true in colleges which enjoy truly academic seclusion amid rural surroundings, for here more than anywhere else is to be seen the natural unperturbed outworking of the undergraduate spirit. It is the old spirit enlarged and liberalized, — the spirit which finds its delight in a free, democratic, self-respecting enjoyment of the four years which are so often looked back upon as the happiest four years of life.

VI INCREASED FREEDOM IN STUDIES. DEVELOPMENT OF ELECTIVE COURSES

Such are some of the non-scholastic aspects of our present college life. They are important in that they give tone to the whole picture, but they do not account for what, after all, is the great transformation which has been wrought, for that transformation is distinctly scholastic. It is caused by the increase of students, their better preparation and their greater age. The studies which by common consent made up the curriculum leading to the old bachelor of arts degree are now being completed before the end, sometimes by the middle of the college course. There is to-day no reason why a young man of twenty should not know as much as his father knew at twenty. But at twenty his father had graduated with the bachelor of arts degree, whereas at twenty the son is only half way through his college course. In other words, he has passed the time of prescription and entered upon the time of his freedom. As this fact forced itself more and more upon the older and stronger colleges, experiments were made in granting a limited amount of elective freedom to students in the latter part of their course ; first in the senior year and then in the junior year, until in some instances the whole four-year course is now elective. The solid block of four years' prescribed study has been cleft downward, part of the way at least, by the "elective" wedge, thin at its entering edge, but widening above the more it enters and descends. To-day the problem of the relation of prescribed to elective studies is a question of constant interest and perpetual readjustment. On the whole, the area of elective opportunity is extending downward, but whether this downward extension is being accomplished by injuring the foundations of liberal education, is to-day as grave a question as any we have to meet. In some colleges a student may obtain the bachelor of arts degree without studying any science, or he may omit his classics, or he may know nothing of philosophy. The solutions offered for this perplexing problem are many.

The first proposal, which has now scarcely an advocate, except possibly some *laudatores temporis acti*, is plainly an impossible one. It is to insist on the old-fashioned four-year prescribed course. But the old-fashioned course is gone. It cannot be restored, because it no longer suits our age. Young men will not go to college and remain there until the age of twenty-two years without some opportunity to exercise freedom of choice in their studies.

The second proposal is to constitute the undergraduate course entirely, or almost entirely, of elective studies. It is argued that when a young man is eighteen or nineteen years of age, he is old enough to choose his liberal studies, and that his own choice will be better for him individually than any prescription the wisest college faculty may make. The advocates of this view admit its dangers. They see the perils of incoherency and discontinuity in the choice of studies. They see that many students are influenced, not by the intrinsic value of the studies, but by their liking for this or that instructor, or the companionship of certain students, or for the easiness of those crowded courses which in college slang are called "softs" or "snaps" or "cinches." Yet they argue that the college student must be free at some time, that his sense of responsibility will be developed the sooner he is compelled to choose for himself, and that he will have the stimulating and sobering consciousness that what he does is his own act and not the prescription of others for him. Those who oppose this view argue that the academic freedom here proposed belongs to university rather than to college students; that the American freshman is not a university student in the sense in which that term has been commonly understood in the educated world. He has not spent eight, nine or ten years in secondary studies, as is the case in France, England or Germany. On the contrary, he has usually spent not more than four years in such secondary studies — occasionally a year or so more. At eighteen or nineteen years of age, he, therefore, comes to college with less training and mental maturity than the French, English or German youth possesses on entering his university. If, therefore, he is to be as well educated as they are, some of his time in college, the first two years at least, should be spent in perfecting his properly secondary education before entering upon that elective freedom which, as is generally conceded, has a place and a large place in our present undergraduate courses. The arguing on this question has been interminable, and almost every intellectual interest of our colleges is bound up in its proper solution.

A third proposal is a conservative modification of the one just mentioned. It is to prescribe groups of cognate studies with the object of concentrating attention on related subjects in that field which the student may prefer, as, for example, physical science or ancient literature or philosophy. Of course the advantage claimed for this mode is that it allows the student to choose the field of study he likes, and then safeguards him against incoherency by requiring him to pursue a group of well-related courses in that field. Or he may elect the "old-fashioned college course," if he likes. The advocates of wider freedom object to this as fettering spontaneity of choice, as not recognizing the fact that there are many students for whom it is advantageous to choose a study here and there at will, as a piece of side work outside the chosen field of their activity. The objectors to this plan of restricted groups and also to the plan of practically unrestricted freedom, assert that the fundamental difficulty in basing any college course on a single group of cognate studies within some one field is that it offers temptations to premature specialization at the expense of liberal education.

Still another proposal remains to be considered. It is the proposal of those who believe that the best type of liberal education is to be found in the historic bachelor of arts course, which has been the center and strength of American college life. They concede, however, that the other bachelor's courses which have been established will give a valuable education to many, provided these courses are consistently organized according to their own ideals. They hold that it is possible to ascertain with sufficient exactness just what studies ought to be prescribed as integral parts of these courses, and that it is the preliminary training given in these prescribed studies which develops maturity in the young student and enables him to choose intelligently his later elective studies. At the present time, in their view, it is not wise to introduce elective studies until about the middle of the college course. These studies, once introduced, should themselves be organized and related in a system, and connected with the underlying system of prescribed studies. The principle of freedom should be introduced gradually, not suddenly. A form of this view which finds a good deal of support is that elective studies should be introduced first of all in the form of extensions of subjects already studied by the student, in order that he may make his first experiment of choice in an area where he is most familiar. According to this view the second stage of elective studies should be the introduction of large general courses in leading subjects, accompanied or flanked by special courses for students of exceptional ability in special directions, and finally leading to as high a degree of specialization as the resources of the college will allow.

But in this region the American college merges itself into the university, and it may be fairly asserted that in the last year and in some colleges in the last two years the student is really a university student. In these various ways we are to-day experimenting in order to find a form under which to organize the rapidly-increasing mass of elective studies.

VII MODES OF INSTRUCTION. ACADEMIC HONORS

Instruction is still mainly conducted by recitation and lecture, the recitation finding its chief place in the earlier and the lecture in the later part of the course. For purposes of recitation the classes are divided into sections of twenty-five or thirty students, and the exercise is usually based on a definitely allotted portion of some standard text-book. Much has been done to improve the character of this exercise. The attempt is made to make it something more vital than the mere listening to students as they recite what they have learned. The correction of mistakes, the attempt to lead the student along so as to discover for himself the cause of his mistakes, the endeavor to teach the entire class through the performance of each individual, to carry the whole group along as one man and thus conduct them through a stimulating and pleasant hour, is the aim of the more skilful instructors. Variety and consequent freshening of attention and effort are added by setting collateral topics of special interest to this or that student, for him to look up somewhat independently. And it must be confessed that the professors most skilled in the art of conducting recitations, rather than those who depend wholly on lectures, leave the most abiding impression. The old-fashioned recitation too often put the student into a laborious treadmill, and monotony was the result. But the best recitations in our colleges to-day are fine examples of dialectic play between instructor and student, and the best moments of such exercises are remembered with enthusiasm. While instruction by recitation continues with effectiveness in the latter part of the course, especially with smaller groups of students, yet instruction by lecture is the rule. The lecturer may have to face a class which enrolls as many students as the whole college contained a generation ago. Two or three hundred may assemble to hear him. He delivers his lecture, while those before him take notes or sometimes, as they listen, read the outline of his discourse in a printed syllabus prepared for the use of the class, and add such jottings as may seem desirable. In many lecture courses the recitation is employed as an effective auxiliary.

But other forms of instruction find place. In all except the elementary courses in science the laboratory plays a most important part, and even in the lectures in the introductory courses in physics, chemistry or biology full experimental illustration is the rule. Then, too, the library serves as a sort of laboratory for the humanistic studies. Students are encouraged to learn the use of the college library as auxiliary to the regular exercises of the curriculum. Certain books are appointed as collateral reading, and the written examination at the end of the term often takes account of this outside reading. But American students read too little. That prolonged reading, which gives such wide and assuring acquaintance with the important literature of any subject, is as yet unattempted in a really adequate degree.

The academic year is divided into two, and sometimes into three terms. At the end of each term the student is required to pass a fairly rigorous set of written examinations. Oral examinations have largely disappeared. Sometimes a high record of attainment in recitations during the term entitles a student to exemption from examination, but this is not common. In awarding honors for scholarly proficiency the old academic college confined itself almost entirely to general honors for eminence in the whole round of studies. The "first honor-man" in older days was the hero and pride of his class. At graduation he usually delivered the valedictory or else the Latin salutatory. Honors for general eminence still remain in most colleges. The rank list of the class at graduation either arranges the students in ordinal position (in which case the first honor-man still appears) or else divides the class into a series of groups arranged in order of general scholarly merit. In such cases the old first honor-man is one of the select few who constitute the highest group in the class. But special honors in particular studies, while not unknown in the past, are really a development of our time. Undoubtedly they have tended to increase the interest of abler students in their favorite studies. A student trying for special honors is, of course, specializing in some sense, though he is not ordinarily pursuing original research. He is rather enlarging and deepening his acquaintance with some one important subject, such as history or mathematics. But sometimes he is beginning independent investigation, and thus passes beyond the collegiate sphere of study.

VIII STUDENT LIFE

Let us try to picture the career of a young American of the usual type at one of our older eastern colleges to-day. At eighteen years of age he has completed a four-year course in some secondary school, let us say at a private academy in the middle states, or some flourishing western high school. He does not need to make the long journey to his future college in order to be examined for entrance, but finds in the distant town where he lives, or at least in some neigboring city, a local entrance examination conducted by a representative of his intended college. The days and exact hours of examination and the examination papers are the same as for the examination held at the college. His answers are sent on to be marked and estimated. In a week or two he receives notice of his admission to the freshman class.

When the long summer vacation is over he sets out for his college. Having passed his entrance examinations, he is now entitled to secure rooms in one of the dormitories, or else to find quarters outside the college campus in town. His name is duly enrolled in the matriculation book and his student career begins. He usually comes with an earnest purpose to study, or at least to be regular in all his attendance. His newness and strangeness naturally pick him out for a good deal of notice on the part of the older students, especially those of the sophomore class. He is subjected to some good-natured chaffing and guying, and perhaps to little indignities. If he takes it good-naturedly, the annoyance soon ceases. If, however, he shows himself bumptious or opinionated or vain or "very fresh," his troubles are apt to continue. Unfortunately it is not impossible they will culminate in some act of mean bullying, known in college parlance as "hazing." The entering freshman is too often like the newly-arrived slave mentioned in Tacitus,—*conservis ludibrio est;* and it would be little comfort for him to know that in this respect he is also a lineal successor of the *bejaunus*, the freshman "fledgeling" among the students of medieval Paris. But the daily round of college exercises demands his attention, and in the class room he begins to pass through a process of attrition more beneficent in its spirit. Under the steady measuring gaze of the instructor, and the unuttered but very real judgment of his classmates who sit about him, he begins to measure himself and to be measured by college standards. Probably for the first time in his life he is compelled to recognize that he must stand solely on his merits. The helps and consolations of home and of the limited circle in which his boyhood was fostered and sheltered are far away. He is learning something not down in the books! and what he is thus discovering is well pictured in the words of Professor Hibben: "There is a fair field to all and no favor. Wealth does not make for a man nor the lack of it against him. The students live their lives upon one social level. There is a deep-seated intolerance of all snobbishness and pretension. The dictum of the 'varsity field, 'No grand-stand playing!' obtains in all quarters of the undergraduate life. It signifies no cant in religion; no pedantry in scholarship; no affectation in manners; no pretence in friendship. This is the first and enduring lesson which the freshman must learn. He learns and he forgets many other lessons, but this must be held in lively remembrance until it has become a second nature." But he has many encouragements. He is passing out of callow youth toward manhood, and his classmates are in the same situation with him. Here is the impulse which suddenly sweeps the whole entering class together in intimate comradeship. And so he starts out with his companions on the ups and downs of his four-year journey. No wonder so many college graduates say freshman year was the most valuable of all; — it was surely the hardest. His college comradeship continues and constitutes his social world. Day after day, term after term, they are thrown together in all the relationships of student life. In the classroom, at the "eating clubs," at the athletic games, in the musical, literary and religious societies, in scenes of exuberant jollification and careless disorder, and in endless criticism of the faculty or of the various courses of study, how their frank and unconventional ways constantly surprise and bewilder the common-place American philistine! You may pass across the lawns of many a campus at any hour of the day and almost any hour of the night in term-time, and rarely is there a time when some student life is not astir. Some are thronging toward the lecture hall to the punctual ringing of the college bell, meeting returning throngs whose exercises are just finished. They are walking by twos or threes, smoking or chatting or mildly "playing horse" in some very pleasant way, unmindful and probably unaware of Lord Chesterfield's horrified injunction to his son: "No horseplay, I beseech of you." Or they are thronging to fill the "bleachers" at a baseball or football game that is about to be played on the college grounds. The different varieties of the college cheer startle the air, and afford some color of excuse to the ingenious hypothesis that our student cheers are derived from Indian war whoops. Or else when they are assembled in Sunday chapel, a decorous but not always solemn audience, their capacity for "simultaneous emotion" appears in their spirited singing of a favorite hymn, or perhaps shows itself in the sudden sensation that sweeps across the chapel like a lightly rustling breeze in response to an inopportune remark of some inexperienced visiting clergyman. Or in the moonlit evenings of October, the time when the trees are turning red and yellow, their long processions pass to and fro, singing college songs. Truly the American collegian is brimful of the "gregarious instinct."

In addition to this ever-present gregarious comradeship which environs and inspires him, our entering freshman finds the deeper intimacies of close individual friendship. As a matter of course he has some one most intimate friend, generally his room-mate or "chum." Side by side they mingle with their fellows. They stand together and, it may be, they fall together, and then rise together. And thus the class is paired off, and yet not to the lessening of the deep class fellowship. Here indeed is a form of communism, temporary and local, but most intense. They freely use things in common, not excepting the property of the college. The distinction between *meum* and *tuum* does not hold rigorously. Τὰ τῶν φίλων ϰοινά said the ancient poet, and so say they. Accordingly a desirable hat or scarf or some article of athletic costume changes ownership again and again, with nothing sought in return. They are welcome to enter each others' rooms at pleasure and use their friends' tobacco and stationery, or to borrow such articles of furniture and bric-a-brac as will brighten their own rooms for some special occasion. The doors of their apartments are commonly left open; sometimes a latch-string is ingeniously arranged so the door can be opened from the outside. Money, however, stands on a different basis from other valuables. It is freely loaned for an indefinite time, but is strictly repaid. A student who lends his fellow money at interest cannot live in a college community.

Our student, unless he is an unusual recluse, takes some part in athletics. If he is not able to win a place on the football team or baseball nine or crew, which represents his *alma mater* in intercollegiate contests, he is very likely to be found playing ball in some organization improvised for the day, or trying his hand at tennis or golf. The bicycle is a necessity of his life, and on it he rides to recitations and lectures, to his meals and to the athletic field.

He has still other interests outside the curriculum. He may be a member of the voluntary religious society of the students. Perhaps he gets a place on the glee club or dramatic club. He may become one of the editors of the daily college paper or of the monthly literary magazine. Perhaps he is manager or assistant business manager for one or another undergraduate organization. Then there are the whist clubs and time-consuming chess clubs. There are also circles for outside reading and discussion springing up around the course of study, as well as the societies which train in speaking and debating. Perhaps he may win the distinction of representing his college in an intercollegiate debate, and success in intercollegiate debating is highly coveted. The contestants are greatly honored, for debating and athletics form the principal bond of union between the different colleges and give to their participants intercollegiate distinction.

Until the student passes out of freshman year, he is not always free to choose what kind of clothes he will wear. A freshman wearing a tall hat and carrying a walking-stick is an offense to the other classes. In some colleges freshmen are not allowed to wear the colors, except on rare occasions. But as soon as he becomes a sophomore he is free to do as he likes. Then he and his classmates may suddenly appear wearing various hats, picturesque and often grotesque in appearance, and revel particularly in golfing suits. Toward the close of the course their daily dress becomes more conventional, though the universal interest in athletics continues to affect the student mode all the way to the end. He has other amusements besides athletics, and these again are found in the student circle. His briarwood pipe goes with him almost everywhere. He smokes as he studies; he smokes at the games. Seated side by side with thousands of other students and alumni at the great intercollegiate matches, he helps form the fragrant cloud of blue incense that rises from the "bleachers" and drifts over the field. In the evening, when the work of the scholastic day is done, he sits with his comrades at an unconventional "smoker," or else they may gather round the table of some restaurant with pipe and "stein;" for the American student who drinks at all prefers beer to either wine or whisky. At such evening sessions the different phases of student politics are discussed again and again. College songs are sung, the air being carried in that sonorous baritone which is the dominant sound in all our student music. Tales and jests fill out the hour. At the end the college cheer is given as the men start strolling homeward, singing as they go. Arrived on the campus they disperse, and their good-night calls echo from the doors and windows of the different dormitories. And so the day ends where it began; within that closed circle where every student lives in "shouting distance" of the others.

Our former freshman is getting on bravely toward the end of his course. He is now a free, familiar, established denizen of his college. He "owns" it. New freshmen, unpleasantly raw and needing to be taught their place,— new freshmen so different from what he is and yet so like what he once was, are crowding in at the bottom of the course. They look up to him and his compeers in the senior class with no little awe and hope. What he is, they may become. In him they "see their finish." In them he reluctantly recalls his beginnings. The closing months of senior year pass swiftly. His class procession is preparing to march out into the world, and there take its place as a higher order of freshmen in the long file of the classes of alumni advancing with their thinning ranks toward middle manhood and beyond,—and when commencement is over his undergraduate life is ended.

What has he acquired in the four years? At least some insight into the terms and commonplaces of liberal learning and some discipline in the central categories of knowledge, some moral training acquired in the punctual performance of perhaps unwelcome daily duty and some reverence for things intellectual and spiritual. He is not only a very different man from what he was when he entered, but very different from what he could have become had he not entered. He is wiser socially. He is becoming cosmopolitan. Awkwardness, personal eccentricity, conceit, diffidence, and all that is callow or forward or perverse have been taken from him, so far as the ceaseless attrition of his fellow-students and professors has touched him. He has been unconsciously developed into the genuine collegian. He is still frank and unconventional. But he has become more tolerant, better balanced, more cultivated and more open-minded, and thus better able to direct himself and others. This is the priceless service his college has rendered him. It is little wonder his student affiliations last. As he goes out to take his place among the thousands of his fellow alumni it is natural that his and their filial devotion to their academic mother should last through life. He will return with his class at their annual or triennial or decennial or later pilgrimages to the old place. No matter what university he may subsequently attend, here or abroad, his college allegiance remains unshaken. It is this which explains the active interest shown by our alumni. In the best sense they advertise their college to the public, and it is to their exertions the recent rapid advancement of many of our colleges is largely due.

IX ORGANIZATION AND ADMINISTRATION. STUDENT EXPENSES

The form of government is simple. A college corporation, legally considered, consists of a body of men who have obtained the charter and who hold and administer the property. Where a particular state has established a college or even a university, which regularly includes a college, the members of the corporation are commonly styled regents, and are appointed by the state to hold office for a limited term of years. But most colleges have been established as private corporations. In this case the title is vested in a board of trustees, sometimes composed of members who hold office for life, or else composed of these associated with others who are elected for a term of years. Boards of trustees holding office for life usually constitute a close corporation, electing their own successors as vacancies occur. The two chief functions of such governing bodies, whether known as regents or trustees or by any other name, are to safeguard the intent of the charter and to manage the property. They give stability to our college system. To carry out the main purpose for which the charter was obtained they create a faculty of professors and instructors and entrust the general headship to a president. The president and professors usually hold office for life. In some places provision is beginning to be made for the retirement of professors on pensions as they grow old. Instructors and sometimes assistant professors are appointed for a limited time, such appointments being subject to renewal or promotion. In the larger colleges the president is assisted in his administrative work by one or more deans. By immemorial tradition the president and faculty are charged with the conduct of the entire instruction and discipline. They have the power to admit and dismiss students. The conferring of degrees belongs to the corporation, but this power is almost invariably exercised according to recommendations made by the faculty. Honorary degrees, however, are sometimes given by the trustees or regents on their own initiative.

In state colleges the income is derived from taxation; in others from endowments, often supplemented by annual subscriptions for special purposes. The increase of income of a college founded by a state depends on the increase of the wealth of the state and the liberality of disposition shown by the legislature. State colleges receive few private gifts. But the private colleges are cut off from dependence on the state, and have to rely on private gifts. This stream of private liberality flows almost unceasingly. The fact that many colleges are integral parts of real or so-called universities makes it difficult to say how much the specifically collegiate endowments and incomes amount to. But a few significant facts may be mentioned. No college president, unless he is at the same time the president of a university, receives as high a salary as ten thousand dollars annually. He is more likely to receive four, five or six thousand dollars. Two thousand dollars is considered a good professor's salary in small colleges; three thousand is a usual salary in the larger colleges, while few professors receive more than four thousand.

The expenses of individual students vary greatly. In some places there is no charge for tuition; in others they must pay as much as one hundred or one hundred and fifty dollars. In little country colleges the total cost for a year often falls within three hundred dollars; in the larger old eastern colleges, drawing patronage from all parts of the land, the student who must pay all his bills and receives no aid in the form of a scholarship can hardly get along with less than six or seven hundred dollars, exclusive of his expenses in the summer vacation. The average expenses in some of the oldest colleges, according to tables prepared by successive senior classes, is higher than this, running up to eight or nine hundred dollars, or even more. But these institutions afford the student of limited means multiplied opportunities for self-help. There are many instances where bright boys have been able to win their way through, standing high in their classes and at the same time supporting themselves entirely by their own exertions. Moreover many colleges possess scholarships which are open to able students who need temporary pecuniary help. The young American of narrow means, if he be of fair ability and industry, can almost always manage to find his way through college

X THE COLLEGE IS AMERICAN

The college lies very close to the people. Distinctions of caste may manifest themselves occasionally, and yet the college is stoutly and we believe permanently democratic. Its relation to the better side of our national life has been profoundly intimate from the beginning. The graduates of Harvard and Yale in New England, of Princeton and Columbia in the middle states, and of the College of William and Mary in Virginia contributed powerfully to the formation of our republic. Edmund Burke attributed the "intractable spirit" of the Americans to "their education," and by this he meant the college education. "The colleges," wrote President Stiles of Yale shortly after the revolution, "have been of signal advantage in the present day. When Britain withdrew all her wisdom from America this revolution found above two thousand in New England only, who had been educated in the colonies, intermingling with the people and communicating knowledge among them." John Adams of Harvard delighted to find in President Witherspoon of Princeton "as high a son of liberty as any in America." Hampden-Sidney college in Virginia, founded about the time of the revolution, incorporated in its charter the following clause: "In order to preserve in the minds of the students that sacred love and attachment which they should ever bear to the principles of the ever-glorious revolution, the greatest care and caution shall be used in selecting such professors and masters, to the end that no person shall be so elected unless the uniform tenor of his conduct manifest to the world his sincere affection for the liberty and independence of the United States of America." And from that day to this the collegiate spirit and the national spirit have been at one. Rightly, indeed, did our appreciative French visitor, Baron Pierre de Coubertin, perceive that the place to find "the true Americans" is in our college halls; "*les vrais Americains, la base de la nation, l'espoir de l'avenir.*" Scarcely one in a hundred of our white male youth of college age has gone to college. But this scanty contingent has furnished one-half of all the presidents of the United States, most of the justices of the supreme court, not far from one-half of the cabinet and of the national senate, and almost a third of the house of representatives. No other single class of equal numbers has been so potent in our national life.

FIRST NOTE — A FEW STATISTICS

In the reports of the United States commissioner of education, colleges, universities, schools of technology and professional schools are classed under the general heading of "Institutions for Higher Education." The latest report is for the academic year ending July first, 1897. The statistics for colleges are to be found in chapter XXXVI (pp. 1648–1755). A study of the tables given discloses clearly the difficulty of separating the whole body of collegiate facts by themselves and the further difficulty of distinguishing between the really substantial and the nominal institutions. "One of the most discouraging features in our system of higher education," says the commissioner in his report (p. 1647), "is the lack of any definite, or, in fact, in a large number of states the lack of any requirements or conditions exacted of institutions when they are chartered and authorized to confer degrees. This condition of affairs is largely, if not entirely, responsible for the large number of weak, so-called colleges and universities scattered throughout our country, institutions that are no better than high schools, and in a large number of cases do not furnish as good an education as may be obtained in good secondary schools." It is not an exaggeration to say that more than half of our professed colleges are not worthy of the name. Accordingly since it is impossible to separate and evaluate in an exact way the purely collegiate statistics, especially in short limits, this paper has been devoted to general characterization and description. We are still far from having a complete account of the history and present condition of our colleges. While good special histories exist for some of the older institutions, no comprehensive and detailed general account of adequate character has yet been written. In view of the limited means at its command, the bureau of education in Washington from year to year has done all that could be asked in its reports. But it is greatly to be desired that congress shall furnish the commissioner of education with the means necessary to institute an elaborate and searching investigation, which shall bring to light the real status, the exact inner condition of all the colleges.

In the report mentioned, statistics for universities and colleges are at times necessarily given together. Every university, with hardly an exception, contains a college. The whole number of professedly collegiate students enrolled in universities and colleges for men and for both sexes and for women is 84,955 (p. 1654). The male students number 52,439 (p. 1670). The estimated population of the United States in 1896 was 70,595,321, or one college student to 831 of the population. The states which enroll the greatest number of students attending college are:

Massachusetts	8 111
New York	7 257
Pennsylvania	6 527
Ohio	5 257
Illinois	5 692

College students are found in greatest numbers in the belt beginning in New England, passing southwestward through the middle states, and thence extending broadly across the middle west. These northeastern and north-central portions contain 70 per cent of the college students and 63 per cent of the population of the whole country; 114 colleges, exclusive of colleges for women, enrolling 31,941 students and generally possessing the largest endowments, are under no ecclesiastical control; 59 colleges, enrolling 5,954, are Roman Catholic; 284 are under the control of various Protestant denominations and enroll 29,104. It thus appears that the division of student enrollment between non-sectarian and sectarian colleges is not very uneven, but the non-sectarian colleges show an average enrollment of nearly three hundred and the church colleges of about one hundred.

The number of professors and instructors in all colleges, except colleges for women only, is 7,228; 749 of these are women. So far as reported there were 31,762 students pursuing the course for the degree of bachelor of arts; 11,812 the courses leading to the degrees of bachelor of letters and bachelor of philosophy; 12,711 the course leading to the degree of bachelor of science, and 4,190 the courses leading to various other first degrees of minor importance. The total is 60,475. These figures indicate that a little more than half our collegiate undergraduates, who seek any degree, are studying for the degree of bachelor of arts, which still generally means, with some important exceptions, that they have had a classical education. The figures for the bachelor of letters and the bachelor of philosophy may be properly associated in one total as representing the intermediate type, which enrolls a little more than one-third of the number studying for the bachelor of arts. The figures for the bachelor of science, as will be observed, do not materially differ from the total for the bachelor of philosophy and bachelor of letters. Turning to the table on page 1673 it appears that the proportion of students who received the degree of bachelor of arts at graduation in 1897, as compared with other bachelor's degrees, is very nearly the same as the proportion indicated by the figures which represent undergraduate enrollment.

SECOND NOTE: — LIST OF AMERICAN COLLEGES ARRANGED IN CHRONOLOGICAL ORDER

As has been explained, it is impossible at present to effect a perfect statistical separation between colleges and universities. The list given below embraces all colleges and universities reported up to July first, 1897, excepting those for women only. It is primarily a college list, although the universities of the country appear in it. As a matter of fact the older real universities have usually grown up around colleges, and strong universities of recent establishment, such as Johns Hopkins and Chicago, regularly contain colleges. Clark university in Massachusetts is the only significant exception ; it has no undergraduate department. The names of many of the older colleges have changed. Harvard college is now the center of Harvard university and Yale college of Yale university. Princeton university originated under the name of the college of New Jersey, and Columbia university was Kings college. The most important common feature in the entire list is the corporate right to grant the bachelor's degree.

The list is classified under five periods. The first includes eleven colleges founded before the American revolution. They form a distinct class by themselves, representing the colonial and revolutionary influences. It will be noticed that they all lie along the narrow strip of Atlantic coast, extending southwestward from Massachusetts to Virginia. The second group is composed of twelve colleges founded immediately after the revolution. They likewise form a separable class. In spirit they were repetitions of the earlier colleges, and were planted here and there in the newer parts of the country. The third class consists of thirty-three colleges founded between the years 1800 and 1830. The latter date is somewhat arbitrary ; but the thirty years are taken to include the first marked development of the United States previous to the wave of European immigration which set in strongly after 1830. The fourth class contains one hundred and eighty colleges. They were founded in a period when the country was rapidly settling and developing. A great wave of immigration was flowing in, and the railroad and telegraph were facilitating the westward distribution of the new population. The period was naturally brought to an end by the civil war. The fifth class extends from the close of the civil war in 1865 to the present time. The interrupted national development enters energetically on a new period and is represented on this list by the foundation of two hundred and thirty-six colleges,—just one-half of the entire list.

I Before the American Revolution (11)

1636	Harvard University, Massachusetts
1693	College of William and Mary, Virginia
1701	Yale University, Connecticut
1746	Princeton University, New Jersey
1749	Washington and Lee University, Virginia
1751	University of Pennsylvania, Pennsylvania
1754	Columbia University, New York
1764	Brown University, Rhode Island
1766	Rutgers College, New Jersey
1770	Dartmouth College, New Hampshire
1776	Hampden-Sidney College, Virginia

II From the American Revolution to 1800 (12)

1783	Dickinson College, Pennsylvania
1783	Washington College, Maryland
1785	College of Charleston, South Carolina
1785	University of Nashville, Tennessee
1789	St. John's College, Maryland
1791	Georgetown University, District of Columbia
1793	Williams College, Massachusetts
1794	Greenville and Tusculum College, Tennessee
1794	University of Tennessee, Tennessee
1795	Union College, New York
1795	University of North Carolina, North Carolina
1795	Washington College, Tennessee

III From 1800 to 1830 (33)

1800	Middlebury College, Vermont
1800	University of Vermont, Vermont
1801	University of Georgia, Georgia
1802	Bowdoin College, Maine
1802	Washington and Jefferson College, Pennsylvania
1804	Ohio University, Ohio
1805	South Carolina College, South Carolina
1807	Moravian College, Pennsylvania
1808	Mount St. Mary's College, Maryland
1812	Hamilton College, New York
1817	Allegheny College, Pennsylvania
1818	Colby University, Maine
1819	Center College, Kentucky
1819	Colgate University, New York
1819	Maryville College, Tennessee
1819	Western University of Pennsylvania, Pennsylvania
1820	Gonzaga College, District of Columbia
1820	Indiana University, Indiana
1820	St. Mary's College, Kentucky
1821	Amherst College, Massachusetts
1821	Columbian University, District of Columbia
1822	Hobart College, New York
1824	Miami University, Ohio
1824	Trinity College, Connecticut
1825	Franklin College, Ohio
1825	Kenyon College, Ohio
1825	University of Virginia, Virginia
1826	Western Reserve University, Ohio
1827	Shurtleff College, Illinois
1828	McKendree College, Illinois
1829	Georgetown College, Kentucky
1829	Illinois College, Illinois
1829	St. Louis University, Missouri

IV From 1830 to 1865 (180)

1830	Spring Hill College, Alabama
1831	Dennison University, Ohio
1831	New York University, New York
1831	University of Alabama, Alabama
1831	Wesleyan University, Connecticut

1832	Hanover College, Indiana
1832	Lafayette College, Pennsylvania
1832	Pennsylvania College, Pennsylvania
1832	Randolph Macon College, Virginia
1832	Richmond College, Virginia
1832	Wabash College, Indiana
1833	Haverford College, Pennsylvania
1833	Oberlin College, Ohio
1834	Delaware College, Delaware
1834	Franklin College, Indiana
1834	Tulane University, Louisiana
1834	Wake Forest College, North Carolina
1835	Marietta College, Ohio
1835	Richmond College, Ohio
1836	Alfred University, New York
1836	Franklin and Marshall College, Pennsylvania
1836	Kentucky University, Kentucky
1837	Central High School, Pennsylvania
1837	Davidson College, North Carolina
1837	De Pauw University, Indiana
1837	Emory College, Georgia
1837	Guilford College, North Carolina
1837	Knox College, Illinois
1837	Mercer University, Georgia
1837	Muskingum College, Ohio
1837	University of Michigan, Michigan
1838	Emory and Henry College, Virginia
1839	Erskine College, South Carolina
1839	Concordia College, Indiana
1840	St. Xavier College, Ohio
1841	Bethany College, West Virginia
1841	Centenary College of Louisiana, Louisiana
1841	Howard College, Alabama
1842	Cumberland University, Tennessee
1842	University of Notre Dame, Indiana
1842	University of the State of Missouri, Missouri
1842	Villanova College, Pennsylvania
1843	Albion College, Michigan
1843	College of the Holy Cross, Massachusetts
1843	New Windsor College, Maryland
1843	St. Vincent's College, Missouri
1844	Iowa Wesleyan University, Iowa
1844	Milton College, Wisconsin
1844	Ohio Wesleyan University, Ohio
1844	Willamette University, Oregon
1845	Baylor University, Texas
1845	Wittenberg College, Ohio
1846	Baldwin University, Ohio
1846	Bucknell University, Pennsylvania
1846	Mount Union College, Ohio
1846	St. John's College, New York
1846	St. Vincent's College, Pennsylvania
1847	Beloit College, Wisconsin
1847	Earlham College, Indiana
1847	College of the City of New York, New York
1847	College of the Immaculate Conception, Louisiana
1847	College of St. Francis Xavier, New York
1847	Otterbein University, Ohio
1847	Southwestern Baptist University, Tennessee
1847	Taylor University, Indiana
1848	Burritt College, Tennessee
1848	Iowa College, Iowa
1848	Pacific University, Oregon
1848	St. Charles College, Maryland
1848	University of Mississippi, Mississippi
1849	Geneva College, Pennsylvania
1849	Hiwasse College, Tennessee
1849	Lawrence University, Wisconsin
1849	South Kentucky College, Kentucky
1849	William Jewell College, Missouri
1849	University of Wisconsin, Wisconsin
1850	Austin College, Texas
1850	Bethel College, Tennessee
1850	Capital University, Ohio
1850	Heidelberg University, Ohio
1850	Hiram College, Ohio
1850	Illinois Wesleyan University, Illinois
1850	University of Rochester, New York
1850	University of Utah, Utah

1851	Carson and Newman College, Tennessee
1851	Catawba College, North Carolina
1851	Christian Brothers College, Missouri
1851	Santa Clara College, California
1851	Trinity College, North Carolina
1851	University of the Pacific, California
1852	Antioch College, Ohio
1852	Furman University, South Carolina
1852	Lombard University, Illinois
1852	Loyola College, Maryland
1852	Mississippi College, Mississippi
1852	Westminster College, Pennsylvania
1853	Central University of Iowa, Iowa
1853	Hedding College, Iowa
1853	Ripon College, Wisconsin
1853	Roanoke College, Virginia
1853	Rutherford College, North Carolina
1853	Westminster College, Missouri
1854	Bethel College, Kentucky
1854	Hamline University, Minnesota
1854	Lincoln University. Pennsylvania
1854	St. Mary's University, Texas
1854	Wofford College, South Carolina
1855	Amity College, Iowa
1855	Berea College, Kentucky
1855	Butler College, Indiana
1855	Central Pennsylvania College, Pennsylvania
1855	Christian University, Missouri
1855	Eureka College, Illinois
1855	Hillsdale College, Michigan
1855	Kalamazoo College, Michigan
1855	Northwestern University, Illinois
1855	Polytechnic Institute of Brooklyn, New York
1855	Southwestern Presbyterian University, Tennessee
1855	St. Ignatius College, California
1855	Tufts College, Massachusetts
1856	Keachie College, Louisiana
1856	Mars Hill College, North Carolina
1856	Monmouth College, Illinois
1856	Moores Hill College, Indiana
1856	Niagara University, New York
1856	Seminary of St. Francis of Sales, Wisconsin
1856	State University of Iowa, Iowa
1856	Western College, Iowa
1856	Wilberforce University, Ohio
1856	Seton Hall College, New Jersey
1857	Bowdon College, Georgia
1857	Central College, Missouri
1857	Cornell College, Iowa
1857	Highland University, Kansas
1857	Rock Hill College, Maryland
1857	Seminary West of the Suwanee River, Florida
1857	St. Meinrad College, Indiana
1857	Upper Iowa University, Iowa
1858	Baker University, Kansas
1858	Grand River Christian Union College, Missouri
1858	Legrange College, Missouri
1858	Newberry College, South Carolina
1858	St. Benedict's College, Kansas
1858	St. Lawrence University, New York
1858	Susquehanna University, Pennsylvania
1859	Adrian College, Michigan
1859	Lenox College, Iowa
1859	McMinnville College, Oregon
1859	Mission House, Wisconsin
1859	North Carolina College, North Carolina
1859	Olivet College, Michigan
1859	Pennsylvania State College, Pennsylvania
1859	St. Bonaventure's College, New York
1859	St. Francis College, New York
1859	Southern University, Alabama
1859	Union Christian College, Indiana
1859	Washington University, Missouri
1860	Augustana College, Illinois
1860	Louisiana State University, Louisiana
1860	Kentucky Wesleyan College, Kentucky
1860	St. Francis Solanus College, Illinois
1860	St. Stephen's College, New York
1860	Wheaton College, Illinois

1861	Blackburn University, Illinois
1861	Luther College, Iowa
1861	Northwestern College, Illinois
1861	Pacific Methodist College, California
1862	Gustavus Adolphus College, Minnesota
1862	Oskaloosa College, Iowa
1862	Pennsylvania Military College, Pennsylvania
1862	St. Joseph's Diocesan College, Illinois
1862	University of Washington, Washington
1863	Bates College, Maine
1863	Boston College, Massachusetts
1863	Manhattan College, New York
1863	Roger Williams University, Tennessee
1864	Central Wesleyan College, Mo.
1864	Gallaudet College, District of Columbia
1864	German Wallace College, Ohio
1864	University of Denver, Colorado

V *From 1865 to the Present Time* (236)

1865	Des Moines College, Iowa
1865	Hope College, Michigan
1865	Jefferson College, Louisiana
1865	Lane University, Kansas
1865	Northwestern University, Wisconsin
1865	Northern Illinois College, Illinois
1865	Ottawa University, Kansas
1865	Shaw University, North Carolina
1865	St. Vincent's College, California
1865	University Institute, Mississippi
1865	Washburn College, Kansas
1865	Westfield College, Illinois
1866	Agricultural and Mechanical College of Kentucky, Kentucky
1866	Central Tennessee College, Tennessee
1866	Fisk University, Tennessee
1866	Lebanon Valley College, Pennsylvania
1866	Lehigh University, Pennsylvania
1866	Lincoln University, Illinois
1866	Pritchett College, Missouri
1866	Scio College, Ohio
1866	University of Kansas, Kansas
1866	Tabor College, Iowa
1866	Whitman College, Washington
1867	Ewing College, Illinois
1867	Howard University, District of Columbia
1867	King College, Tennessee
1867	LaSalle College, Pennsylvania
1867	Muhlenberg College, Pennsylvania
1867	Philomath College, Oregon
1867	Ridgeville College, Indiana
1867	Simpson College, Iowa
1867	St. John's University, Minnesota
1867	U. S. Grant University, Tennessee
1867	West Virginia University, West Virginia
1868	Avalon College, Missouri
1868	Biddle University, North Carolina
1868	Clark University, Georgia
1868	Cornell University, New York
1868	St. Benedict's College, New Jersey.
1868	St. Viateur's College, Illinois
1868	University of Illinois, Illinois
1868	University of Minnesota, Minnesota
1868	University of the South, Tennessee
1868	Wartburg College, Iowa
1868	Western Maryland College, Maryland
1869	Atlanta University, Georgia
1869	Augsburg Seminary, Minnesota
1869	Claflin University, South Carolina
1869	Rust University, Mississippi
1869	St. Ignatius College, Illinois
1869	St. Mary's College, Kansas
1869	Straight University, Louisiana
1869	Swarthmore College, Pennsylvania
1869	Trinity University, Texas
1869	University of California, California
1870	California College, California

1870	Carleton College, Minnesota
1870	Carthage College, Illinois
1870	Canisius College, New York
1870	Leland University, Louisiana
1870	Ohio State University, Ohio
1870	St. John's College, New York
1870	Thiel College, Pennsylvania
1870	University of Wooster, Ohio
1870	Ursinus College, Pennsylvania
1870	Wilmington College, Ohio
1871	Christian Brothers College, Tennessee
1871	Evangelical Proseminary, Illinois
1871	Syracuse University, New York
1871	University of Nebraska, Nebraska
1872	Arkansas College, Arkansas
1872	Arkansas Industrial University, Arkansas
1872	Boston University, Massachusetts
1872	Buchtel College, Ohio
1872	Doane College, Nebraska
1872	Morrisville College, Missouri
1872	St. Joseph's College, Ohio
1873	Add-Ran University, Texas
1873	Drury College, Missouri
1873	German College, Iowa
1873	New Orleans University, Louisiana
1873	North Georgia Agricultural College, Georgia
1873	Penn College, Iowa
1873	Southwestern University, Texas
1873	University of Cincinnati, Ohio
1873	Weaverville College, North Carolina
1873	Wiley University, Texas
1874	Battle Creek College, Michigan
1874	Central University, Kentucky
1874	Colorado College, Colorado
1874	Sweetwater College, Tennessee
1875	Knoxville College, Tennessee
1875	Liberty College, Kentucky
1875	Park College, Missouri
1875	St. Olaf College, Minnesota
1875	Vanderbilt University, Tennessee
1876	College of the Sacred Heart, Colorado
1876	Chaddock College, Illinois
1876	Johns Hopkins University, Maryland
1876	Lake Forest University, Illinois
1876	Morgan College, Maryland
1876	Parsons College, Iowa
1876	Rio Grande College, Ohio
1876	University of Oregon, Oregon
1877	Detroit College, Michigan
1877	Ogden College, Kentucky
1877	Philander Smith College, Arkansas
1877	University of Colorado, Colorado
1878	Alabama Baptist Colored University, Alabama
1878	Brigham Young College, Utah
1878	College of Montana, Montana
1878	Creighton College, Nebraska
1878	Holy Ghost College, Pennsylvania
1878	Southwest Baptist College, Missouri
1878	St. Mary's College, North Carolina
1880	Allen University, South Carolina
1880	Drake University, Iowa
1880	Indian University, Indian Territory
1880	Presbyterian College of South Carolina, South Carolina
1880	University of Omaha, Nebraska
1880	University of Southern California, California
1881	Bethany College, Kansas
1881	Fort Worth University, Texas
1881	Marquette College, Wisconsin
1881	Paul Quinn College, Texas
1881	St. Edward's College, Texas
1882	Bridgewater College, Virginia
1882	Campbell University, Kansas
1882	Coe College, Iowa
1882	Gates College, Nebraska
1882	Hastings College, Nebraska
1882	Livingstone College, North Carolina
1882	Milligan College, Tennessee
1882	Pike College, Missouri
1882	University of South Dakota, South Dakota
1883	University of Texas, Texas
1883	Yankton College, South Dakota
1883	College of Emporia, Kansas
1883	John B. Stetson University, Florida

1883	Missouri Wesleyan College, Missouri
1883	Tarkio College, Missouri
1883	Pierre University, South Dakota
1884	Fairfield College, Nebraska
1884	Florida State Agricultural College, Florida
1884	Grove City College, Pennsylvania
1884	Hendrix College, Arkansas
1884	University of North Dakota, North Dakota
1885	Colfax College, Washington
1885	Dakota College, South Dakota
1885	Defiance College, Ohio
1885	French American College, Massachusetts
1885	Lafayette College, Alabama
1885	Macalester College, Minnesota
1885	Morris Brown College, Georgia
1885	Young L. G. Harris College, Georgia
1886	Findlay College, Ohio
1886	Florida Conference College, Florida
1886	Kansas Wesleyan University, Kansas
1886	Ouachita Baptist College, Arkansas
1886	Rollins College, Florida
1886	Searcy College, Arkansas
1886	Southwest Kansas College, Kansas
1886	St. Ignatius College, Ohio
1886	State University of Nevada, Nevada
1886	Union College, Kentucky
1887	Alma College, Michigan
1887	Cooper Memorial College, Kansas
1887	Fargo College, North Dakota
1887	Gonzaga College, Washington
1887	Midland College, Kansas
1887	Occidental College, California
1887	University of Wyoming, Wyoming
1888	Barboursville College, West Virginia
1888	Cotner University, Nebraska
1888	Nannie Lou Warthen College, Georgia
1888	Nebraska Wesleyan University, Nebraska
1888	Parker College, Minnesota
1888	Pomona College, California
1888	Scarritt Collegiate Institute, Missouri
1889	Catholic University of America, District of Columbia
1889	(Clark University, Massachusetts)
1889	Lafayette Seminary, Oregon
1889	Missouri Valley College, Missouri
1890	Arkadelphia Methodist College, Arkansas
1890	Benzonia College, Michigan
1890	Black Hills College, South Dakota
1890	Blount College, Alabama
1890	Elon College, North Carolina
1890	Howard Payne College, Texas
1890	Lineville College, Alabama
1890	Montana Wesleyan University, Montana
1890	Morningside College, Iowa
1890	Puget Sound University, Washington
1890	St. Leo Military College, Florida
1890	Volant College, Pennsylvania
1890	Whitworth College, Washington
1890	York College, Nebraska
1891	Arkansas Cumberland College Arkansas
1891	Austin College, Illinois
1891	Buena Vista College, Iowa
1891	Charles City College, Iowa
1891	Duquesne College, Pennsylvania
1891	Greer College, Illinois
1891	Lenoir College, North Carolina
1891	Leland Stanford Junior University, California
1891	Pacific College, Oregon
1891	Polytechnic College, Texas
1891	Portland University, Oregon
1891	St. Bede College, Illinois
1891	Throop Polytechnic Institute, California
1891	Union College, Nebraska
1891	University of Arizona, Arizona
1892	Central Christian College, Missouri
1892	Fairmount College, Kansas
1892	Henry College, Texas

1892	Millsaps College, Mississippi
1892	Northwest Missouri College, Missouri
1892	Red River Valley University, North Dakota
1892	St. Bernard College, Alabama
1892	University of Chicago, Illinois
1892	University of Idaho, Idaho
1892	University of Oklahoma, Oklahoma
1892	Vashon College, Washington
1892	Walla Walla College, Washington
1893	American Temperance University, Tennessee
1893	Fredericksburg College, Virginia
1893	Lima College, Ohio
1893	Mountain Home Baptist College, Arkansas
1893	Soule College, Kansas
1893	St. John's Lutheran College, Kansas
1894	Cedarville College, Ohio
1894	Henry Kendall College, Indian Territory
1894	St. Louis College, Texas
1895	University of Montana, Montana
1896	Adelphi College, New York
1897	Atlanta Baptist College, Georgia

Department of Education
for the
United States Commission to the Paris Exposition of 1900

MONOGRAPHS ON EDUCATION
in the
UNITED STATES

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6

THE AMERICAN UNIVERSITY

BY

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I INTRODUCTION. DO UNIVERSITIES OR THEIR EQUIVALENT EXIST IN THE UNITED STATES?

Professor Ladd of Yale university, in an essay originally read before the "Round Table" of Boston, about 1888, and republished in his little book, *The Higher Education*,[1] says: "Any one possessed of the requisite information knows at once what is meant by the university of France, the English universities, or a German university; but no one can become so conversant with facts as to tell what an American university is." And again: "— it is scarcely less true than it was a score of years ago, that, although there may be universities in America, no one can tell what an *American* university is."

A discouraging statement certainly, if true, for the would-be exponent of the American university! While not so accurate at the present day as when first made, it is still true enough, if one fail to free himself at the very start from dependence upon the *name* as necessarily indicative of the *thing*. It is incontestable that within the last ten years the conception of the natural and necessary relation of the "university" to the "college" has become much clearer, and that many and important changes of organization and administration have resulted, so that it is certainly easier than it was in 1888 to define, or at least to describe, the American university. However, there remain difficulties of many kinds; and it still is, and will undoubtedly be for years to come, if not actually impossible, at least very difficult, to give a definition broad enough to include all institutions of learning in the United States which possess true university character, and precise enough to exclude all others.

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[1] N. Y., Chas. Scribner's Sons, 1899.

The first difficulty is this: The names "university" and "college," as used in the official titles of institutions, are absolutely worthless as indications of the character of these institutions. Among the scores of titular "universities" in this country most are merely colleges, some good, some indifferent, some so badly endowed and organized as to be not even good high schools. On the other hand, Bryn Mawr "college" has never assumed, even in informal use, the name "university," yet offers true university instruction of the highest order in most of the subjects covered by the *philosophische Fakultät* of a German university; and even Harvard and Columbia, though they have now acquired a true university character, of a very elaborate type, and are habitually spoken of as such, have retained in their corporate titles their ancient designation of "college." It happens that in the most eastern states the word "university" is much less used as a title, the higher institutions of learning having mostly been founded while the English influence was still strong, many of them indeed in colonial times, under direct English authority, and so having adopted the peculiarly English name of "college." In the newer states more ambitious plans prevailed, and the consideration of conditions in non-English European countries — notably those of Germany, where the universities had obtained a more commanding position and influence than elsewhere by the beginning of the 19th century — led to the choice of the name of apparently greater dignity. This consideration seems also to have been paramount with the founders of the countless purely sectarian institutions which sprang up all over the country, and still lead a precarious existence, striving to hold the attention of their brethren in the faith by promiscuously showering down honorary degrees. Yet it would be grossly unfair to assume that in all cases the name of university was adopted out of pure conceit; in many the choice of name was the proclamation of a purpose sincerely cherished, and resolutely carried forward, amid difficulties of which the European critic can form no conception, to a realization more or less complete. It will be necessary then to get rid of this first difficulty by ignoring completely the difference in title. If we shall succeed in describing the *thing*, though we may be ever conscious of the unfortunate ambiguity of terms, now doubtless too firmly fixed in official and legal use to be easily changed, we may rest content.

Another difficulty is this. It is now clearly seen that, as institutions, the college and the university, having very different functions, demand a different organization and administration. Yet the full recognition of this fact is comparatively recent, and the logical consequences have been reached in only a few instances. The circumstances of foundation and the necessities of the hour have made it practically impossible for the university and the college in the United States to exist apart. There are still but two institutions which may be called even fragmentary universities entirely unconnected with a college : The Clark university of Worcester, Mass., and the Catholic university of America at Washington. Down to 1876, when the Johns Hopkins university was opened, whatever real university instruction was offered was organized at a college already existing, and even the founders of the Johns Hopkins, though their chief purpose was avowedly to provide for university instruction of the highest grade, felt it necessary or at least advisable to organize a college also. The wide scope planned for Cornell university, opened in 1868, from the first necessarily included a college, nay, many colleges, as part of the scheme. In all discussion of the American university, therefore, in this article it must be borne in mind that the term (with the two exceptions noted above) is used to include only certain parts of institutions whose organism is often highly complex, and that probably no two institutions coincide in theory or even in practice, though certain principles and practices are common to those of more complete type.

What then is that American university, a description of which is here undertaken, if it does not anywhere exist in completeness and exactness, unobscured by contact with institutions of different character and divergent aims? It will be least misleading to say at the outset: It is nowhere. In so far, therefore, Professor von Holst's famous pronouncement is right; a university in the European sense does not exist in America. And yet, from Harvard on the Atlantic tidewater to the University of California, which looks out through the Golden Gate upon the Pacific, and from Minneapolis to New Orleans, will be found many institutions which offer training in the methods of scientific research, opportunities for the prosecution of such research, and abundant facilities in the way of libraries, museums and laboratories, to those individuals who have had such preliminary training as to be able to profit fully by these advantages, and which certify by the formal bestowal of a particular degree or degrees that the individual receiving one of them has proved himself or herself to have acquired the methods and habits of such scientific research. This is equivalent to saying, in the technical language in vogue in the United States, that these institutions offer to graduate students courses leading to advanced or higher degrees. Where such courses are well organized and equipped and successfully maintained, there is a university at least in part, and, it may be, in the whole. Whether the institution do only this, or this and many other things besides, and whether it be called university or college, may be important questions from some points of view; for the point of view of this discussion the existence of such organization for research work by graduates is the test, and it is its purpose to describe as clearly as possible such organization of this character as may be found in the United States of America. Apparent or evident divagations from this strict purpose will perhaps find readier pardon from the foregoing allusions to some of the difficulties in the way.

II DIFFERENT FORMS OF AMERICAN UNIVERSITIES. THE STATE UNIVERSITIES. CONTRAST WITH EUROPEAN UNIVERSITIES

It has often been remarked by observant foreign travellers in the United States that among this young people many institutions change less rapidly than in the older nations of Europe. This conservatism, in large part an English trait persisting through many generations, is particularly observable in the field of education; experiments are carefully tried, downright innovations still less willingly adopted. Only where occasion is offered for new foundations are we apt to find a ready breaking with traditional forms. When, on reviewing the American institutions of learning to discover which of them give the opportunities for training in the methods of research that we have taken as our standard of measurement, we find them to be almost without exception colleges, or technical schools, or professional schools as well, or all of these together, we shall also find that they were generally colleges first of all, and that training in research was made a part of the system only later, very gradually and hesitatingly, the two institutions which disclaim all "college" work being almost the youngest, and one of them not yet displaying a very encouraging vitality. We shall find also that one of the oldest and most famous colleges of all, Yale, was also the first to institute regular courses of instruction for those who wished to pursue their studies after receiving the degree of bachelor of arts.

A. Universities unconnected with colleges

1 **Clark university, Worcester, Mass.**—Clark university was founded in 1887 by the generous gift of Mr. Jonas G. Clark, and the work of instruction was begun in 1889. From the first the range of the future university was strictly limited; there was to be no college, no technical school, no professional schools pure and simple. Only those who had taken a first degree were to be admitted, and of these only

such individuals as should give promise of high attainments in some specialty of scientific research. The design and organization of the new institution were intrusted to Mr. Stanley G. Hall, for some years professor of philosophy at Johns Hopkins university in Baltimore. Only a few departments were organized, and these were intended to cover subjects closely and organically connected, viz.: mathematics, physics, chemistry, biology (including anatomy, physiology and palæontology) and psychology (including neurology, anthropology, criminology and history of philosophy). It was strongly emphasized in the scheme of foundation that so far as possible the line of demarcation between professor and student should be wiped out; the professors and other instructors were to feel themselves as merely older students, the students were to be expected to lecture occasionally on topics connected with their chosen specialties. The attempt to secure large numbers of students was expressly disclaimed. Seminar-organization was adopted as the essential plan of the institution, one which should bind together instructors and students into homogenous groups. For successful completion of certain requirements of research, including the publication of an acceptable dissertation, the degree of doctor of philosophy was offered. A number of fellowships and scholarships were established, making it possible for students of limited means to carry on their researches unhampered by the necessity of seeking lucrative employment outside of their university studies.

As was expected, the number of students has never been great; it has varied from 53 in 1892–3 to 38 in 1896–7 and 48 in 1898–9. The number of instructors has remained nearly constant, being in 1898–9 10. The departments at present (1899) organized are the following: Mathematics, biology, philosophy, physics, pedagogy, psychology and anthropology; it is intended to organize others from time to time, in logical order of development. Thus far Clark university, judged by its size alone, is a "torso of a university," to use Professor von Holst's famous phrase; its methods, however, and the character of the work accomplished there, are thoroughly those of the most fully developed universities of the old world.

2 The Catholic university of America, Washington, D. C.— The inception of this institution dates from 1884, when its establishment was decided upon at a Roman Catholic congress held in Baltimore. The actual work of instruction was begun in 1889, in the school of theology. The university is now constituted as follows:

1 School of divinity, comprising four departments: a Biblical sciences; b Dogmatic sciences; c Moral sciences; d Historical sciences.

2 School of philosophy, comprising six departments: a Philosophy; b Letters; c Mathematics; d Physics; e Chemistry; f Biological sciences.

For admission to the school of philosophy candidates must have received the bachelor's degree, or show by passing an examination that they have received the full equivalent of a collegiate course of training. Two degrees are granted, master of philosophy (Ph. M.), after two years' graduate study, an examination on a major and a minor subject, and the presentation of a satisfactory dissertation; and doctor of philosophy, after not less than three years' graduate study, an examination on a major and two minor subjects, and a satisfactory dissertation.

3 The school of social science, comprising four departments: a Sociology; b Economics; c Political science; d Law.

The first three of these constitute a school of social science, or political science, in a narrower sense. Three degrees are offered, bachelor, master and doctor of social science; no specific period of study is prescribed for them, but satisfactory dissertations are required and examinations must be passed. The department of law is somewhat differently organized, and grants six degrees: bachelor and master of laws, doctor of civil law, doctor of ecclesiastical law, doctor of civil and ecclesiastical law (J. U. D.), and doctor of laws (LL. D.). The holding of a bachelor's degree, while not demanded for admission to the school of law, is urgently recommended.

4 The institute of technology consists of four departments: a Applied mathematics; b Civil engineering; c Electrical engineering; d Mechanical engineering.

Neither Clark university nor the Catholic university of America admits women to any of its courses of instruction.

B. Universities united with colleges and professional and technical schools

The union of college and university may fairly be called the typical American form of organization for the higher education. Only in the institutions of comparatively recent origin do we find that university organization was attempted from the first. The professional and technical schools have generally occupied a position of great independence toward the institution as a whole, in many cases having hardly more than the name in common, but possessing their own budgets and boards of trustees, sometimes even being administered as proprietary schools, wherein the professors divided among themselves the fees paid by the students. The medical schools have been the most independent in this respect. It should be borne in mind that in the case of such complex institutions the name "university" is applied to the whole, so that, theoretically at least, the university may include the equivalent of a German university, *technische Hochschule* (formerly called *Polytechnicum*), *landwirtschaftliche Hochschule* or agricultural college, and *Gymnasium*. Passing under review the many types of organization wherein university and college are united, we shall find that in most cases the graduate and undergraduate work are carried on by the same individuals, so that, instead of a university and a college being in alliance, so to speak, as might be said if the body of instructors of each part were composed of quite different individuals, with one governing body for the whole, we have to do really with a complex and overlapping structure. Herein lies, it must be said, one of the greatest disadvantages for the American university, though there are valuable compensations. The American university professor is rarely able to devote himself exclusively to advanced scientific work with well-prepared students, but must, in most cases, carry on a good deal of mere class work as well, which cannot but prove detrimental to the progress of his researches.

The many institutions falling under this head illustrate almost as many principles of combination as there are institutions. A detailed description of all is of course impossible here; those that are chosen as the most instructive types may best be grouped in two classes:

Into the first class (*a*) will come those which, though possessing both a collegiate or undergraduate and a graduate department, yet in practice draw a hard and fast line between the two, conducting the undergraduate and graduate courses as entirely separate, sometimes with quite different methods, and rigidly excluding from the latter courses all who have not taken a baccalaureate degree or its equivalent (as for example the *testimonium maturitatis* or *Reifezeugniss* of a German gymnasium). Very few institutions belong in this first group.

a

1 Johns Hopkins university — This famous establishment, the good influence of which upon the general development of higher education in the United States has been incalculably great, was founded by the noble bequests of Johns Hopkins, a citizen of Baltimore. Mr. Hopkins devoted nearly all of his estate, amounting to more than three and a half million dollars, to the foundation of a university and a hospital. The institution was incorporated in 1867; the board of trustees was organized in 1870, and held its first meeting in 1874. In the same year Professor Daniel Coit Gilman, of the University of California, and previously of Yale university, was elected president. The work of instruction was begun in 1876; from the first the chief aim was proclaimed to be the development of instruction in the methods of scientific research. An undergraduate or collegiate course was also arranged, intended to give the best possible preparation for the advanced work, and leading to the degree of bachelor of arts. In the university proper only a faculty of philosophy was organized, as the faculty of medicine, which was also planned, had to wait for its realization upon the opening of the hospital. This event took place in 1889, and four years later the school of medicine was opened. It admits women on equal terms with men, this having been stipulated by Miss Garrett, by whom large gifts were made; women are not admitted to either the school of philosophy or the undergraduate department.

An important place at Johns Hopkins university has always been held by the "fellows." Twenty fellowships are awarded each year to the most promising among the many candidates, without preference of college; each fellowship is of the annual value of $500, though it does not exempt from charges for tuition. The candidates must prove their ability to carry on independent researches in the subjects in which they seek fellowships, and engage to prosecute such researches during the time of their appointment. In the language of the official announcement of the university the fellowships are bestowed "almost exclusively on young men desirous of becoming teachers of science and literature, or proposing to devote their lives to special branches of learning which lie outside of the ordinary studies of the lawyer, the physician and the clergyman." The university also extends the privilege of "fellowships by courtesy" (without emolument) to certain individuals.

The university receives as students the following classes: 1. College graduates and other advanced scholars, who may proceed to the degree of doctor of philosophy, in literature or science, or remain for longer or shorter periods in such of the various seminaries or laboratories as they may choose. 2. Undergraduate students looking forward to the degree of bachelor of arts. 3. Candidates for the degree of doctor of medicine. 4. Doctors of medicine desiring to pursue certain postgraduate courses. 5. Students who have taken no degree, and are not looking forward to a degree, but who desire to avail themselves for a brief period of the opportunities here offered.

The courses of study under 1, 3 and 4 are entirely closed to those who are still candidates for a baccalaureate degree.

2 **Bryn Mawr college** — This excellent institution for women, modeled closely after the pattern of Johns Hopkins university, is situated at Bryn Mawr, a suburb of Philadelphia. It was founded chiefly by the gifts of Dr. Jos. W. Taylor and other members of the Society of Friends (" Quakers "), and opened in 1885. Four classes are admitted : Graduates, undergraduates, special students, and hearers ; the latter, receiving no formal recognition from the institution, are admitted to various courses by the consent of the instructors. To the graduate courses only holders of the degree of bachelor of arts are admitted. These courses cover the usual ground of the " faculty of philosophy," as at Johns Hopkins, *i. e.*, philosophy, logic and psychology, language and letters, political and social science, history, natural science and mathematics, and lead to the degrees of master of arts and doctor of philosophy.

From the first the standard set at Bryn Mawr has been extremely high, and a very able body of instructors has been secured. Its degrees are held fully equal to those granted anywhere in the United States.

3 **University of Pennsylvania** — In 1751 the " Charitable School " at Philadelphia, which had been established in 1740, was reconstituted, under the advice of Franklin, into an academy, comprising an English, Latin and mathematical school. Two years later a charter was granted by the governors of the province of Pennsylvania ; and in 1755 the institution received the privilege of granting degrees, and was officially designated as: " The College and Academy of Philadelphia, in the Province of Pennsylvania." In 1791, after several years of tribulation, a more recent institution,

founded largely by spoliation of the old college, was united with it, under the name of the University of Pennsylvania.

The university is entirely a private and self-perpetuating corporation, except that the governor of the state is *virtute officii* president of the trustees. It comprises the following teaching divisions: The college, including the school of arts and the Towne scientific school; the department of philosophy (graduate school); the department of law; the department of medicine; the laboratory of hygiene; the department of dentistry; the department of veterinary medicine.

The department of philosophy, or graduate department, is organized to give advanced instruction in the various branches of literature and science. Admission is granted to persons holding a "bachelor's degree in arts, letters, philosophy, pure or applied science, granted by the University of Pennsylvania or by any college or university whose degrees are recognized by this university." Admission to the graduate school does not imply admission to candidacy for a degree. The courses of instruction are grouped as follows: I. Semitic languages. II. American archæology and languages. III. Indo-European philology. IV. Classical languages. V. Germanic languages. VI. Romanic languages. VII. English. VIII. Philosophy, ethics, psychology and pedagogy. IX. History. X. Economics, politics, sociology and statistics. XI. Mathematics. XII. Astronomy. XIII. Physics. XIV. Chemistry. XV. Botany and zoology. XVI. Geology and minerology.

The principle of separation between undergraduate and graduate students is, with some few exceptions, strictly carried out. These exceptions are found chiefly in departments which are not represented in the college plan of instruction except by one or more courses offered to seniors, as *e. g.* Semitic languages and Sanskrit.

In this group might also be placed, with some reservations, Yale university. The graduate school, which conducts the courses leading to the degrees of master of arts and doctor of philosophy, while accepting as a rule only actual graduates of Yale or other colleges, admits in exceptional cases other persons of liberal education. Some few of the higher undergraduate courses are open to graduate students, and may be counted toward the higher degrees. A description of the organization of the university will be given below.

b

By far the greater number of institutions which conduct "graduate" work fall into the second division (*b*) which we have established, as not drawing a rigid line of demarcation between the undergraduate and the graduate courses. This does not mean that students who have not received their first or bachelor's degree, or its equivalent, are accepted as candidates for the master's or doctor's degree, for to the writer's knowledge that is nowhere the case; but merely that some at least of the courses leading to the higher degrees are open to undergraduate students. This feature, so difficult for foreign, especially German, observers to understand, is partly a necessity, partly the result of a deliberate policy which has in the main well justified itself. The policy will be discussed later; the necessity has arisen from the limited endowment of most of the institutions, which has made it impossible, even where it would have been desirable, to increase largely the number of professorships and the extent of such educational aids as libraries, laboratories, etc.

The institutions remaining for our consideration are most conveniently divided into those of private (or originally private) foundation and the "state universities." The former have generally been aided at different times with greater or less liberality by the governments of the states in which they are established, in many cases a return having been demanded by the state in the form of free scholarships of one or another kind, or other privileges; the state universities have frequently received valuable aid from private individuals. It should be stated here that the national government supports no universities, this being left entirely to the separate states.

Institutions of private foundation

1 **Harvard university** — The foundation of this venerable institution, at once the oldest, largest and most famous seat of learning in the United States, dates from 1636, when the general court of the colony of Massachusetts Bay voted a gift of four hundred pounds "towards a *school* or *college*." Instruction was not begun until 1638, in which year a bequest of John Harvard, a non-conforming clergyman of England, and a graduate of Emmanuel college, Cambridge, who had died at Charlestown, became available. The sum realized was sufficient to open the institution at once, and the gratitude of the court was shown by the attachment of Harvard's name to the new college. In 1642 the management of the institution was entrusted to a board of overseers; in 1650 the college was made a *corporation*, the board of overseers being also retained. With considerable changes in the mode of selecting the president and fellows (who constitute the "corporation") and the overseers, this organization has persisted until the present day. The corporation is self-perpetuating; the board of overseers, for a long period chosen by the legislature of Massachusetts, is now elected entirely by the graduates of Harvard college. From 1636 until 1782, when a school of medicine was established, Harvard college composed the entire institution, conferring only the degrees of bachelor and master of arts. The term university seems to have been first applied to it in 1780, and has for many years been used of the institution as a whole, of which Harvard college is by statute merely a part. The legal titles of the controlling bodies are, however, "The President and Fellows, and the Board of Overseers, of Harvard College." The various departments of the university, added from time to time, have been largely reorganized during the last ten years. The present organization of the departments of instruction is briefly as follows:

I–III Three schools under the *faculty of arts and sciences*, viz.:

I Harvard college, leading to the degree of bachelor of arts.

II The Lawrence scientific school (degree of bachelor of science).

III The graduate school (degrees of master of arts, master of science, doctor of philosophy and doctor of science).

IV The divinity school (degree of bachelor of divinity).

V The law school (degree of bachelor of laws).

VI The medical school (degree of doctor of medicine).

VII The dental school (degree of doctor of dental medicine).

VIII The school of veterinary medicine (degree of doctor of veterinary medicine).

IX The Bussey institution (degree of bachelor of agricultural science).

Of these the graduate school corresponds very closely in range and methods of instruction to the *philosophische Fakultät* of the universities of Northern Germany, offering courses of research in philology (Semitic languages, Indo-Iranian, the classics (including Greek and Roman archæology), English, Germanic and Scandinavian, Romance languages, Celtic, Slavonic, history and political science, philosophy (including ethics and psychology), fine arts, music, mathematics, astronomy, physics, chemistry, botany, zoology, geology, mineralogy, American archæology and ethnology, physiology. Admission to the graduate school is ordinarily granted to graduates of colleges and scientific schools of good standing. This does not, however, imply admission to candidacy for a degree; such is granted only to those whose credentials are approved by the committee on admission from other colleges, which satisfies itself that the applicant has had a training substantially equivalent to that demanded for the Harvard bachelor's degree. It frequently happens that such applicants spend a year in study for the Harvard degree of bachelor of arts, after which they may or may not go on to the higher degrees.

The courses offered under the faculty of arts and sciences are of three kinds:

(1) Primarily for undergraduates. These, though often open to graduates, may be counted only toward the bachelor's degree.

(2) For undergraduates and graduates. These may be counted toward either the bachelor's, or toward the master's and doctor's degrees; they are attended chiefly by undergraduates in their last, or graduates in their first, year of study as such.

(3) Primarily for graduates. These courses are attended only by such undergraduates as have made unusual progress in their studies, and some of them are entirely closed to undergraduates.

The school of law, with a course of three years, admits to full standing as candidates for the degree holders of a bachelor's degree in arts, literature, philosophy or science granted by certain institutions named in the university catalogue, also persons qualified to enter the senior class of Harvard college. In the main it may be called a true graduate school, as out of 551 students enrolled in 1898–9, 489 held the bachelor's degree. This is true, in a minor degree, of the school of divinity, in which candidates for the degree of bachelor of divinity must have a satisfactory degree in arts or an equivalent approved by the faculty. The medical school, which at present prescribes a moderate examination for entering students, will soon be put on a true university basis by the requirement that in and after June, 1901, candidates for admission must present a degree in arts, literature, philosophy, science, or medicine from a recognized college or scientific school; from this rule exceptions are to be made only by special vote of the faculty in each case.

2 Yale university, New Haven, Conn.— In 1701 there was founded at Saybrook the Collegiate School of Connecticut, which was transferred to New Haven in 1716, and in 1718 renamed Yale college, in recognition of the gifts made to the young institution by Elihu Yale of London. The degree of bachelor of arts, first awarded in 1702, was the only one given until 1814. In the latter year the degree of doctor of medicine was first bestowed, that of bachelor of laws in 1843, doctor of philosophy in 1860, and civil engineer and bachelor of divinity in 1867. The name Yale college was retained by the entire institution until comparatively recent years.

The present organization shows four departments: I Philosophy and the arts; II Theology; III Medicine; IV Law.

The department of philosophy and the arts includes Yale college (for some years called the "academical department"), the Sheffield scientific school, the graduate school, and the schools of fine arts and music. The graduate school, in its reorganized form, corresponds quite closely to that of Harvard university and to the German *philosophische Fakultat*, but differs from the latter in including advanced technical instruction in civil and mechanical engineering. It offers the degrees of master of arts, master of science, doctor of philosophy, civil engineer, and mechanical engineer. Admission is granted to graduates of Yale and of other colleges and universities, and (in exceptional cases) to other persons of liberal education, at least eighteen years old. The departments of study are these: Psychology, ethics and philosophy; economics, social science, history and law; Semitic languages and biblical literature; classical and Indo-Iranian philology; modern languages and literatures; natural and physical science; pure and applied mathematics; the fine arts; music; physical culture. Out of 257 students registered as in actual attendance upon the courses of the graduate school in 1898–9 only 8 were not holders of degrees, and of these 6 had received academic training in Japan. Some of the courses designed for advanced undergraduates in Yale college or the Sheffield scientific school are open to graduates, and may be counted toward the higher degrees. The schools of theology, medicine and law do not demand the possession of a degree as a condition of entrance, though this is practically recommended.

3 Columbia university, New York — In 1754 there was founded in the city of New York, under royal charter of

George II, an institution for the education of youth, to which the name Kings college was given. The college existed under this name until 1784, though the exercises were partially, at times wholly, suspended during the war of the revolution. In 1784, on the incorporation of the "Regents of the University of the State of New York," the property of Kings college was vested in them, and its name changed to Columbia college. In 1787, however, this act was repealed, and the original charter issued to the college was confirmed. The legal style of the new corporation was fixed as "The Trustees of Columbia College in the City of New York." This is still its legal designation. In 1896 the board of trustees sanctioned the use in all official publications of the term Columbia University in the City of New York; the name Columbia college has accordingly been restricted to its original sense, viz., the college proper, exclusive of the professional and graduate schools. It had been for some years customary to speak of this as the school of arts, to distinguish it from the schools of law, medicine and mines. The school of medicine (which bears also the title college of physicians and surgeons) was founded in 1807, the school of law in 1858, the school of mines in 1864; from the latter were set off in 1896 the schools of chemistry, engineering and architecture. Affiliated with Columbia university are Barnard college, founded in 1889, and Teachers college, founded in 1888. The former offers to women undergraduates courses identical with those given in Columbia college, while its graduate students are admitted to the work of the faculties of philosophy, political science and pure science in Columbia university; the latter is devoted to the special training of teachers, men and women alike, and certain of its courses are accepted by Columbia as part of the work required for its degrees, both baccalaureate and advanced.

The organization of Columbia university, excluding Barnard and Teachers colleges, is as follows:

I Columbia college.

II The university, including

A. The non-professional schools

1 Faculty of philosophy, which offers advanced courses and opportunities for original research in philosophy and education, psychology, Greek and Latin (incluing archæology and epigraphy), English, literature, music, and the Germanic, Romance and oriental languages.

2 Faculty of political science, giving similar instruction in political and social science, including history, economics and public law.

3 Faculty of pure science, for mathematics and the various branches of natural science.

4 Faculty of applied science, covering mining, metallurgy, engineering and architecture.

B. The professional schools

These are

1 School of medicine, or college of physicians and surgeons, with a four years' course leading to the degree of doctor of medicine.

2 School of law, with a three years' course leading to the degree of bachelor of laws.

3 Schools of mines, chemistry, engineering and architecture, which are under the charge of the faculty of applied science, and offer courses, each of four years, leading to the appropriate technical degrees (bachelor of philosophy, engineer of mines, civil engineer, etc.).

Applying the test hitherto used, we find that the non-professional schools, which award the degrees of master of arts and doctor of philosophy, exact as the condition of admission to candidacy for a degree the possession of a baccalaureate or equivalent degree. Their organization as three faculties (or four) instead of one is modelled largely after those South German universities which have subdivided the ancient faculty of philosophy into two or more parts. The professional faculties do not as yet demand the possession of a degree of entering students; but the faculty of law has announced that in and after 1903 the bachelor's degree in arts or philosophy will be required of all candidates for admission to full standing. (In 1898–9, out of 348 primarily registered under the faculty of law, 216 held degrees.)

A peculiarity of the Columbia organization is the system by which seniors in Columbia college, who have entered the college not later than the beginning of the junior year, are allowed to select part or all of the courses necessary for the bachelor's degree from among those designated by the "university" faculties, professional or non-professional, as open to them. Naturally only the introductory courses, or those of more general bearing, are so offered by these faculties. The object of this arrangement is to shorten the time necessary to the attainment of the higher, particularly of the professional, degrees. With the establishment of the four years' course in medicine, and the higher standards set by all the faculties, it was found that those who finished their college course before entering on professional studies could rarely secure the professional degree before reaching their twenty-fifth year, and it was believed that while good students should be ready to begin professional work after completing their third year in college, yet the bachelor's degree should not be cheapened by awarding it for less than four years of collegiate study. On the whole the plan has worked well, though some complaints are made of the difficulty of carrying on graduate courses to which undergraduates, often necessarily of a lower grade of preparation, are admitted. In many cases courses thus open to undergraduates and graduates alike may not be counted toward the higher degrees unless additional work be done in connection with them.

4 **Cornell university, Ithaca, N. Y.**— Cornell university occupies a middle ground between the institutions of private (or chiefly private) foundation and independent corporate existence and the state universities to be described below. Its foundation was chiefly due to the generosity and strenuous efforts of Ezra Cornell, and it possesses corporate independ-

ence; but the government of the state of New York is represented by *ex-officio* members on the board of trustees, and the funds for its establishment, other than those given by Mr. Cornell and other benefactors, were derived from the sale of the grants of public lands made to the state of New York by the "Morrill Act" of the national congress in 1862. Mr. Cornell's plan designed the establishment of an institution "where any person might find instruction in any study;" and if this has long since been seen to be impossible of realization, yet the very breadth of sympathy evidenced by the desire has resulted in a foundation of unusual breadth and strength. The university was incorporated in 1865, and opened to students in 1868. Its constitution has undergone many changes, as well of internal arrangement as of outward expansion; its present organization is the following:

I Graduate department.
II Academic department, or department of arts and sciences.
III College of law.
IV College of civil engineering,
V Sibley college of mechanical arts.
VI College of architecture.
VII College of agriculture.
VIII College of medicine.

The New York state veterinary college and college of forestry are administered by Cornell university. The college of medicine, constituted in 1897–8 from the faculties of two medical schools already existing in the city of New York, is situated in that city, though the work of the first two years may be done in Ithaca.

The graduate department provides courses of instruction and research for graduate students leading to advanced degrees. No sharp line is drawn between graduates and undergraduate students, many of the courses being open to undergraduates who have prepared themselves by taking the necessary preliminary elective courses, but a large number are specially adapted to the wants of graduate students, and some are open exclusively to them. The degrees offered to graduate students are: Master of arts, master of science in architecture, master of civil engineering, master of mechanical engineering, master of science in agriculture, and doctor of philosophy.

Seniors and juniors in the academic department are allowed, with certain restrictions, to elect studies in other departments of the university which shall count towards graduation in the academic department. The Columbia principle is thus applied more widely.

The schools of law and medicine have not as yet made the possession of a first degree a necessary condition of admission.

The exigencies of space forbid the description here of several of the prominent autonomous corporative institutions which include true university instruction in their work, such as Brown university at Providence, R. I., Princeton university in New Jersey, the Leland Stanford, Jr., university at Palo Alto, Cal., the Tulane university of Louisiana, the Vanderbilt university at Nashville, Tenn., and others. All comprise the college and the various scientific schools. We turn, therefore, to the most recently founded of the larger institutions, one which has taken at a bound a place in the very front rank of American education.

5 **The university of Chicago** — The history of the university of Chicago begins with the year 1886, when Mr. J. D. Rockefeller formed the idea of founding a new institution of learning in Chicago. By a series of extraordinarily munificent gifts, made by Mr. Rockefeller and others, the establishment of the new institution was assured; the first buildings were erected in 1891, and the doors opened to students October 1, 1892. The organization is complicated, and in many respects unlike that of any other American university. An entirely original feature is the division of the academic year into four quarters of twelve weeks each, instead of two or three terms. Instruction is given during the whole year,

except during the interval of one week at the end of each quarter ; students remain for one or more quarters as they chose, and each instructor is bound to teach during thirty-six weeks of the year, with certain bounties for additional instruction given beyond this requirement. The university is organized in five distinct divisions: I The schools, colleges and academies ; II The university extension ; III The university library, laboratories and museums ; IV The university press ; V The university affiliation. The first division, comprising the whole teaching staff of the university proper, consists of 1 The schools ; *a* Graduate schools ; *b* Professional schools. 2 The colleges ; *a* Junior college, corresponding to the first two years ; *b* Senior college, corresponding to the last two years of the ordinary college.

The graduate schools thus far organized are two, the graduate school of arts and literature, and the Ogden (graduate) school of science. Admission is granted (1) to those who have been graduated from the colleges of the university of Chicago with the degree of bachelor of arts, science or philosophy ; (2) to graduates of other institutions of good standing, holding degrees corresponding to those granted by the university. The degrees conferred are: Master of arts, master of science, master of philosophy, and doctor of philosophy. Most of the courses in the graduate schools are open to graduate students only, but some are open to students in the senior college who have received the preliminary training enabling them to profit by these courses. The divinity school includes, *a* the graduate divinity school, designed primarily for college graduates ; *b* the English theological seminary, with resident courses only in the summer quarter ; *c* and *d* the Scandinavian theological seminaries. The graduate divinity school admits to candidacy for the degree of bachelor of divinity only graduates of accepted colleges ; the degrees of master of arts and doctor of philosophy are also offered.

The state universities

At the present time, in each of twenty-nine of the states of the union, there is maintained a single "state university," supported exclusively or prevailingly from public funds, and managed under the more or less direct control of the legislature and administrative officers of the state. In some cases private benefactions have notably supplemented the support given from public revenues. These states are the following: Alabama, California, Colorado, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada, North Carolina, North Dakota, Ohio, Oregon, South Carolina, South Dakota, Tennessee, Texas, Virginia, Washington, West Virginia, Wisconsin, Wyoming.[1] The organization of these institutions, while more similar than that of the universities which are autonomous corporations, yet shows many points of divergence; and their extent and standards of scholarship vary even more widely. The larger among them exhibit a very complete development of technical and professional schools, with the exception of schools of theology, which naturally have no place in a country where state aid is not extended to religion. The professional schools of law and medicine, however, are generally supported, at least in greater part, by the fees received from students, and up to the present time none of them has been put on a true university basis. Otherwise, the sources of income of these universities are mainly the following: 1 The proceeds of land-grants made in 1862 by the federal government, in accordance with the famous "Morrill Act" of 1862, for the maintenances of colleges whose leading object should be instruction in those branches of learning relating to agricultural and mechanical arts, including military tactics, and not excluding other scientific and classical studies; 2 State taxation, whether by way of annual appropriations from the general taxes of the state, or by continuous appropriations from a permanent special tax; 3 Tuition fees (only in some of the universities, while in many instruction is entirely gratuitous); 4 Private gifts and endowments — the least common source of revenue, although some brilliant exceptions are to be noted.

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[1] The university of the state of New York is not a university at all, but rather a state board of education, with supervision of all instruction given in the state. The "University of France," as constituted under Napoleon I, is closely analogous to it.

The universal verdict of public opinion, in the states where such institutions are maintained, is that they, as state organizations supported directly by public taxation from which no taxable individual is exempt, should be open without distinction of sex, color or religion to all who can profit by the instruction therein given. Each forms the uppermost division of the general system of public education of the state in which it is maintained, and is managed with a view to completing the scheme of instruction begun in the primary and carried on in the secondary schools. Control is vested in a board of public officials, generally called "regents." For example, the board of regents of the University of Minnesota consists of the governor of the state, the superintendent of public instruction, the president of the university, and seven members appointed by the governor and confirmed by the senate. In Michigan the regents are elected by popular vote for terms of eight years — an unusual feature. The composition and mode of choice of these boards varies greatly in different states, and not less their fitness for the responsibilities entrusted to them. In some states, as in Michigan and Wisconsin, the result of many years' endeavor has been, though after many vicissitudes and bitter struggles, the creation of noble schools of training; in others the constant changes in political complexion of the legislature, and the self-seeking of party leaders, have made the universities mere shuttlecocks of public or party opinion, and not only has their development been hindered, but in some cases their usefulness deliberately crippled. Instances are not unknown where particularly able and courageous professors, who would not cut their scientific opinions after the prevailing fashion in politics, have been driven from their chairs, even by outrageously underhanded methods.

Of the state universities the most prominent and successful are those of Michigan, Minnesota, Wisconsin, and California. The first mentioned is the oldest and perhaps the best known. Under the direction of a series of singularly able men it has grown, since its foundation in 1837, into a position of commanding importance. The three others, while considerably younger, have shown a surprisingly rapid growth. As examples of the organization of state universities will be taken Wisconsin and California.

The University of Wisconsin, Madison, Wis.— When the state of Wisconsin was organized in 1848, the university was established by constitution as a part of the free school system of the state. The law establishing it declares that its object shall be "to provide the means of acquiring a thorough knowledge of the various branches of learning connected with scientific, industrial and professional pursuits." The institution was reorganized in 1866, when the college of agriculture was united with it; and the professional and technical schools were added in rapid succession.

The university comprises six divisions:

I College of letters and science, with seven different undergraduate courses leading to baccalaureate degrees. The corresponding graduate courses lead to the higher degrees of master of arts, literature or science, and doctor of philosophy. These graduate courses include philosophy, pedagogy, economic and social science, history, philology, mathematics, natural sciences.

II College of mechanics and engineering; the undergraduate courses lead to the degree of bachelor of science, and graduate courses to those of civil, mechanical, or electrical engineer.

III College of agriculture, with three different courses, one leading to the degree of bachelor of science, and a course for graduates, to the degree of master of science.

IV College of law, with a three years' course, leading to the degree of bachelor of laws.

V School of pharmacy.

VI School of music.

The school of economics, political science and history and the school of education are subdivisions of the college of letters and science; their work extends over the later portion of the undergraduate, and through the graduate, departments. The line between advanced undergraduates and graduate students is not sharply drawn, some courses being open to both classes of students.

The University of California, Berkeley and San Francisco, Cal.— The University of California, an integral part of the public educational system of the state, was established in 1868, and instruction was begun the following year. The college of California, which had been organized in 1855, transferred its property and students to the new institution in 1869, and closed its own work of instruction. The professional schools, though contemplated in the original plan, were not actually organized until later. In June, 1888, the Lick observatory at Mount Hamilton became a part of the university.

The controlling body is unusually large, consisting of the governor and lieutenant-governor of the state, the speaker of the assembly, the state superintendent of public instruction, the presidents of the state agricultural society and the mechanics' institute of San Francisco, and the president of the university (all these *ex-officio*), and sixteen other regents appointed by the governor with the approval of the state senate.

The institution is supported by various state funds; the college of law has a special endowment; the other professional schools are supported by tuition-fees.

In 1898 gifts amounting to many millions of dollars were made to the institution by Mrs. Phœbe Hearst, which will make possible the development of the university on a scale hitherto unexampled in America.

The organization of the university comprises the following departments of instruction:

I In Berkeley:

A The colleges of general culture: Letters (with degree of bachelor of arts), social science (bachelor of letters), natural sciences (bachelor of science), commerce (degree not yet established).

B The colleges of applied science, leading to the degree of bachelor of science.

II At Mt. Hamilton:

The Lick astronomical department (observatory).

III In San Francisco:

1 The Mark Hopkins institute of art. 2 The Hastings college of the law. 3 The medical department. 4 The post-graduate medical department. 5 The college of dentistry. 6 The California college of pharmacy. 7 The veterinary department.

In the graduate department, regularly organized courses of instruction and research lead to the degrees of master of arts, literature or science, and doctor of philosophy. These courses comprise instruction in philosophy and education, history and political science, philology, decorative and industrial art, mathematics and natural science, engineering and agriculture. They are classified as: 1 Primarily for graduates; 2 for graduates and advanced undergraduates.

Contrast with European universities

The foregoing account of the chief types of university organization in the United States will, it is hoped, have made clear most of the details in which their structure is peculiarly American. The older institutions, starting from the English type of college, never developed in the direction of universities of Oxford and Cambridge, where the idea of the university as a great teaching body was lost in the excessive development of the college as a place of residence, and of the university as primarily a congeries of colleges.

The early medieval universities of Europe, on the continent as well as in England, generally provided for their students places of residence in buildings set apart for this purpose, instruction of the lower grades in connection with these residence halls, and higher instruction independently of them. On the continent, however, especially in France and Germany, the residential feature rapidly became less important, and finally, with a few unimportant exceptions, disappeared altogether, so that the entire resources of the universities, though often scanty enough, could be turned to account for the work of instruction. In England exactly the opposite occurred; the residential halls became, through the impulse of successive pious foundations, the important factors in the university life, even attaining corporate independence and ultimately great wealth, and gradually assumed most of the instruction of the students, though the examinations and the award of degrees remained the prerogatives of the university as a whole — conditions which made directly for the fixity of residence characteristic of English universities, and adopted as a matter of course in the American colleges patterned after the English model. If the establishment of Harvard and Yale colleges had been followed at brief intervals of time by the foundation of other residential colleges in Cambridge and New Haven, and if there had existed in the colonies an established church with a prestige such as that possessed by the church of England in the home country, keeping the colleges under its control, a state of affairs similar to that at Oxford would doubtless have resulted. The scanty population and limited means of the colonies, and their independence of the church of England, prevented such a result, fortunately, on the whole, for the educational welfare of the country at large.[1] Yet the residential feature has persisted throughout the history of the American college; though abandoned here and there, as at Columbia and the University of Pennsylvania, it has been restored at the latter, has again been adopted in principle, if not yet in practice, at Columbia, and deliberately introduced, in various forms, at many new institutions, even in some which at first had made no provision for students' residence. The American institutions differ furthermore from the English universities in this, that their growth has been so largely in the direction of professional and technical schools, though these have been thus far in less than a half a dozen instances placed on a real university basis.

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[1] It is interesting to note that during the last few years the rapid growth of Harvard college, which had 1,851 undergraduate students in attendance during 1898–9, led to a suggestion that it be divided somewhat on the English plan into three or four separate colleges, a plan which met with little favor.

The points of difference between the American and the continental European universities are not less apparent. Taken as a whole, the American institutions exhibit only a portion of what in Europe is thought necessary to the constitution of a complete university, viz., the traditional four faculties of theology, law, medicine and philosophy, because, although all four may be in existence (as for example at Harvard), they are not all organized and administered on the same plane ; but on the other hand they include elements which in Europe are sharply marked off from the universities, namely, technical schools, and undergraduate schools which in some cases correspond fairly well to the lycee or gymnasium of France or Germany, in others to the last two or three years of these institutions and the first year of the university or technical school. If we separate the strictly graduate schools of the American universities from the remainder of their respective institutions, we shall find them in general covering pretty nearly the ground of the "philosophical faculties" of Germany, and more or less closely approximating them in methods of work. A decided point of difference, however, consists in the comparative infrequence of migration on the part of students from university to university, which is so nearly the universal rule in Germany.

III EARLIEST BEGINNINGS OF UNIVERSITY OR GRADUATE INSTRUCTION. DEVELOPMENT OF THE UNIVERSITY OUT OF THE COLLEGE. INFLUENCE OF GERMAN MODELS AND METHODS

The cataloges of Harvard college contain, somewhat before 1800, the names of individuals enrolled as "resident graduates," though no statement is made of the advantages offered them or the work expected of them. This continues for many years, the numbers of the graduate students varying greatly; *e. g.*, in 1811 are entered twelve such; in 1825, one; in 1833, nine; in 1837, one; in 1845, 15; in 1850, three; in 1855, six; in 1860, nine. During the early years of the 19th century Americans began to seek out the universities of Germany. The first American to be graduated at a German university was Edward Everett, who was made a doctor of philosophy of Göttingen in 1817. He was followed in 1819 by Joseph Green Cogswell, by George Bancroft in 1820, and R. B. Patton in 1821. The inspiration there received sowed the seed from which has sprung such abundant fruit. Yet the seed was long in sprouting. A very interesting letter from Bancroft, written in 1871,[1] offering the foundation of a graduate scholarship, tells of the writer's unsuccessful attempts in 1821 "to introduce among us some parts of the German system of education, so as to divide more exactly preliminary studies from the higher scientific courses, and thus facilitate the transformation of our colleges into universities, after the plan everywhere adopted in Germany." He then continues: "But it is not easy to change an organization that has its roots in the habits of the country; and the experiment could not succeed." "I then applied * * * for leave to read lectures on History in the University. At Göttingen or at Berlin I had the right, after a few preliminary formalities, to deliver such a course. * * * My request was declined by my own alma mater. * * *" After 1821 no American seems to have received a German degree until 1848, when B. A. Gould, the astronomer, took the doctor's degree in philosophy. From this time on the numbers increased rapidly. Göttingen was the favorite university with Americans, though some studied elsewhere, W. D. Whitney taking his degree at Breslau in 1852.

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[1] In the Harvard University Catalog for 1898–9, pp. 459 ff.

The year 1847 saw the establishment at Yale of a "department of philosophy and the arts," for scientific and graduate study, leading to the degree of bachelor of philosophy. The catalog of that year says: "The branches intended to be embraced in this department are such in general as are not included under theology, law or medicine; or more particularly, mathematical science, physical science and its application to the arts, metaphysics, philology, literature and history. The instructions in the department are intended for graduates of this and other colleges, and for such other young men as are desirous of pursuing special branches of study; but it is necessary for all students in philosophy and mathematical science that they be thoroughly grounded in these studies." Among the first lecturers in these courses were President Woolsey in Greek, Professors Silliman in chemistry, Porter in logic and philosophy, Salisbury in oriental languages. During the years between 1847 and 1861 these courses were gradually expanded, and soon separated into two divisions, 1, the Yale (afterwards called the Sheffield) scientific school; and 2, special courses in history, philology, philosophy and mathematics. Other scholars of note were added to the list of lecturers, notably W. D. Whitney in 1854. In the catalog for 1860–61 appears for the first time in the United States the announcement that the degree of doctor of philosophy will be awarded. As candidates there were to be admitted, without examination, bachelors of arts, science and philosophy; others after successfully passing equivalent examinations. The degree was first bestowed in 1861. A distinct graduate school was first fully organized in 1872.

At the University of Michigan a university course was projected early in President Tappan's administration (1852–1863), but never fully carried out. In 1858–9 some graduate courses of lectures were established. The degree of master of arts was first conferred after examination in 1859; previously it had been given, as elsewhere, "in course," *i. e.*, after the lapse of a certain period.

At Columbia college a plan was formed between 1854 and 1857 to establish three schools, of philosophy or philology, jurisprudence and history, and mathematics and physical science, to extend through the senior year of the college and two years beyond it, the degree of bachelor of arts to be given as usual at the end of the four years' course. The plan was not completely realized, but twenty-five years later it was revived in a somewhat different form by the establishment of the school of political science, and the principle has been substantially adopted in the present organization of the university. In 1858 courses of lectures for advanced students were opened by Professors A. Guyot, G. P. Marsh, W. G. Peck and others, but continued only for one year.

In 1860 the Harvard catalog contains for the first time a definite statement about graduate students: "Graduates of the university, or of other collegiate institutions, desirous of pursuing studies at Cambridge without joining any professional school, may do so as resident graduates." In February, 1863, courses of lectures were offered "open to all graduates of colleges and school teachers who enter their names, to persons connected with the university, except undergraduates, and to others on payment of $5" on natural science, philosophy, literature, art, etc. Among the lecturers were Louis Agassiz, James Russell Lowell, Charles Eliot Norton. These lectures were continued until 1872; but the number of resident graduates remained practically stationary, even declining to 5 in 1868–9.

In 1872 Harvard university announced that it would confer the degrees of doctor of philosophy and doctor of science, and that the degree of master of arts would be given only on examination. To candidacy for these higher degrees were to be admitted bachelors of arts of Harvard, and bachelors of arts of other colleges who should satisfy the faculty that they had had a training equal to that given at Harvard. Excellent provision was made for the instruction of graduates, and one fellowship and one scholarship for graduates were established. In 1872 28 graduate students were enrolled; in 1876–7, 61; in 1889–90, 111. The graduate department was organized as a separate school in 1890. In the twenty-five years from 1873 to 1898 the doctorate in science or in philosophy has been conferred on 212 men.

At Cornell university, where actual instruction was begun in 1868, the degree of doctor of philosophy was planned for from the beginning, though at first the requirements were strangely limited. Rapid changes were soon made, however, and in 1871 we find the requirements of two years' resident graduate study, the passing of examinations, and the presentation of a satisfactory dissertation, laid down in the catalog. The graduate courses are thus described in the catalog of 1876: "Post graduate courses of study leading to secondary or advanced degrees have been or will be on application marked out, in the following general departments: Chemistry and physics, ancient classical languages and literature, modern European languages and literatures, oriental languages and literatures, mathematics, natural history, and philosophy and letters." In the same year regulations for the award of the degree of doctor of science were established.

At Princeton "post-graduate" courses are first mentioned in the catalogue for 1877–8, as in operation, with 44 students, in three groups, philology, philosophy and [natural] science. At first only a certificate of work done was given to these students; the degree of master of arts was still given "in course." Courses in natural science, leading to the degree of master of science, were established in 1881; and about the same time new regulations for the master's degree were published, and that of doctor of philosophy was offered.

Johns Hopkins university was organized from the first with chief regard to graduate work; its influence upon older institutions became very marked from the time of its opening in 1876. The University of Michigan first offered the doctor's degree in philosophy in 1874–5. The degree of master of arts ceased to be conferred "in course" in 1877.

At Columbia the master of arts degree was conferred "in course" for the last time in 1880; thereafter it was given only to bachelors of arts of three years' standing, who had pursued for at least one year a course of study under the direction of the faculty of the college, in one or more of five groups: Greek, Latin, English; philosophy, ethics, logic; mathematics, mechanics, astronomy; physics, chemistry, geology; constitutional law, economics, history. Instruction for graduates was begun in the same year. The degree of doctor of philosophy was first awarded in 1884. The regulations for the award of the higher degrees suffered several changes from year to year. In 1890 the entire institution was thoroughly reorganized; the school of philosophy was established; it and the school of political science, existing since 1879, were made "university" faculties, and in 1893 the faculty of pure science was added to them.

At Bryn Mawr college, opened in 1885, graduate instruction was undertaken from the first, as at Johns Hopkins, though the organization of undergraduate work was made relatively more important than at Baltimore. Clark university, from 1887, has never organized undergraduate courses.

The twenty-eight years elapsed since the first doctor of philosophy was created at New Haven, in 1861, have brought about an expansion and development of graduate study that is not less than wonderful. In 1898–9 over 3,600 students, of whom nearly 1,000 were women, were enrolled in some 24 institutions. The whole number who were receiving graduate instruction in the United States was much greater than this; and in 1898, 246 persons received from these institutions the degree of doctor of philosophy.

In this rapid development, from 1860 to 1899, of the doctorate as the goal to which the graduate student presses on, must be recognized the working of the impulse and inspiration brought from Germany. The enthusiastic desire, felt by Bancroft in 1820, of transforming the American college into a German university, shows itself again in Michigan and elsewhere a generation later. Between 1870 and 1880 many Americans were returning home from foreign study, and the number of those seeking the universities of the fatherland increased rapidly. What appealed to them most among the advantages there found was the freedom of research, and the abundant encouragement and opportunities extended to the aspiring student. There was little or nothing in the American college organization of 1870 to encourage this spirit, and it is no wonder that each returning Ph. D., or his less fortunate brother whose means or time had not permitted him to acquire this badge of accomplishment, should have proved an apostle of a new dispensation. That many mistakes should be made was inevitable; the first enthusiasm overlooked many of the stubborn facts of American life which refused to be bent into agreement with German standards. It is to the credit of American educators that so many ways have been found of keeping what is good for us in the German system, and bringing it into harmony with a national view of life quite different from that which produced this system. The plan, so often advocated, of turning the colleges into universities at once, could not have succeeded, because the projectors forgot that only the German secondary school system made possible the German university and its methods of work, that the reform must be begun at the bottom as well as at the top, and that the American college was too intimately connected with the American national life to be abolished or summarily turned into a *Gymnasium*. The last ten or fifteen years have brought much greater clearness of vision. The problem to be worked out, a problem whose solution is well begun, is how to make of the college the proper complement of the secondary school. In their gymnasial organization, with its rigid training under one system for nine years, the Germans have beyond question an educational advantage of incalculable value; but such a system is possible only in a state whose government is sufficiently strong and paternal to impose its will upon the people for generation after generation. We too could have gymnasia if we were willing to pay the price for them. That price, however, would be one against which the personal independence of the American would instantly protest. The maintenance of the rigid control and discipline of the gymnasium is made possible only by a direct interference of the teachers, as government officials, even with what seem to Americans to be pure family matters.[1]

Naturally, then, what was adopted from Germany was found to be most available and useful when employed as a supplement to the American college, not as a substitute for it. That this addition to our educational system was in general made in connection with existing institutions has been on the whole a great advantage to us. Great libraries, laboratories and museums, such as are necessary to a university, cannot be created at once, even with adequate endowments. Until the principle of American government is changed it will not be possible to create state institutions exclusively devoted to the highest education; nor, under the political conditions of the United States, is it desirable. The number of men thoroughly competent to organize and administer a great university is very small indeed; the best commercial or political organizer often fails most signally in this field. For this very reason, probably, the experiment has not yet been possible on a scale large enough to afford a real test.

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[1] So for instance the domiciliary visits sometimes made by the teachers, to see if the pupils are at work at the hours prescribed for *Hausarbeit*. For an excellent account of the German gymnasia, see Russell, J. E., German Higher Schools, N. Y. 1899.

IV QUALIFICATIONS FOR ADMISSION. STUDIES AND DEGREES. HONORARY DOCTORS OF PHILOSOPHY. AIDS TO STUDY AND RESEARCH: MUSEUMS, LABORATORIES, LIBRARIES

In general, the possession of a bachelor's degree is requisite for admission to the graduate school of an American university. In the earlier years of the existence of these schools, it was chiefly the degree of bachelor of arts which was demanded. A difficulty soon arose. Many students presented themselves who had had a good training, though without the classics, or at least without Greek, and held bachelors' degrees in philosophy or science. At some institutions these degrees represented distinctly less severe work than the degree of bachelor of arts, at others this discrepancy did not exist. In general, however, it must be said, the first degrees in "philosophy," "letters" or "science" were more easily acquired than that in arts. To ensure the proper preparation of intending students, most graduate faculties or boards of administration reserved and still reserve the right of passing upon the special qualifications of each individual who does not hold a first degree from the institution where he seeks admission as a graduate student. In some universities great liberality — sometimes too great — is shown toward applicants. At Columbia those who hold a baccalaureate degree in arts, letters, philosophy or science, or an engineering degree, or the equivalent of one of these from a foreign institution of learning, are admitted as candidates for the degrees of master of arts and doctor of philosophy; the university faculties protect themselves by requiring that every candidate for a higher degree must present to the dean of each school in which he intends to study evidence that he is qualified for the studies he desires to undertake. A student once admitted to one of the schools, however, unless as a special student, becomes *ipso facto* a candidate for a degree, and is expected to settle at once upon his major and two minor subjects. At other universities admission to a graduate school does not imply admission to candidacy for a degree, this being granted only later, when the student has shown himself thoroughly qualified for the necessary work. This qualification includes in many institutions the ability to read fluently French and German, sometimes Latin. The plan has been found to work well where it has been in operation, and deserves general adoption. It is followed, *e. g.*, at Harvard, and at the University of Chicago. At the latter institution the names of those who are, and those who are not yet, admitted to candidacy for a degree are printed separately in the catalog.

All the graduate schools, with few if any exceptions, award the degrees of master of arts and doctor of philosophy. At Columbia these are the only ones thus awarded, the degree of master of laws, though classed as a university degree, being given for work done under the faculties of law and political science together. The doctorate is offered at some institutions in two forms, doctor of philosophy and doctor of science; the latter, given for advanced work in natural science, is rarely taken. At Harvard, for instance, while 190 degrees of Ph. D. were granted from 1873 to 1898, but 22 of S. D. were given, the greatest number in any one year being three, and none were awarded in 1874, 1876, 1877, 1880, 1883, 1885, 1888, 1890, 1896, or 1898.

The master's degree has not been reduced to such simplicity. Many institutions still create masters of science, philosophy, letters (or literature), corresponding to the baccalaureate degrees in those subjects.

The requirements to be fulfilled for the doctor's degree show greater uniformity among the different institutions than those for the master's. The minimum period of study anywhere accepted is two years after receiving the bachelor's degree. Where undergraduates are admitted to some of the courses arranged for graduates, this means that three years (as at Columbia), or even four (as at Cornell), may still be passed under the direction of the graduate faculty or committee of graduate instruction by a student who merely fulfills the minimum requirement of graduate attendance. But even in those institutions where the minimum period is two years the degree is not often obtained in that time; it may indeed be safely said that the minimum of three years' study is practically universal. The Johns Hopkins university, in establishing its regulations for the doctor's degree, adopted the German system of *Hauptfach* and *Nebenfächer*, the "major subject" being that field of research which furnishes the subject for the dissertation demanded, and the "minor subjects" being required to be organically connected with it. Harvard and Yale, on the other hand, do not hold to this system, demanding merely that the amount and kind of work done shall be satisfactory to the controlling board or committee. At Harvard the regulations read as follows: "A candidate for the degree of doctor of philosophy must offer himself for examination in some one of the divisions of the faculty of arts and sciences. The subjects in which the degree may be taken are * * *: philology, philosophy, history, political science, music, mathematics, physics (including chemistry), natural history, American archæology and ethnology. Within his chosen division the candidate must name some special field of study, approved as sufficient by the committee on honors and higher degrees in that division. He is liable to minute examination on the whole of that special field and is also required to prove such acquaintance with the subject-matter of his division in general as the committee in that division shall require." For the doctorate in science two subjects in the range of the mathematical, physical and natural sciences are demanded, in one of which special attainments must be shown. Columbia goes farther perhaps than any other American university in specifying minutely what branches of study may count as subjects in the schools of philosophy, political science and pure science. Concerning the recognition of work done in graduate schools elsewhere great diversity of practice prevails. No university has yet seen fit to accept candidates for the degree who have completed all their residence elsewhere, as is so freely done in Germany; the feeling is still strong that the institution that bestows a degree upon a candidate must have had that candidate under its direct charge for a considerable time. The practice shows a distrust of other institutions which is far from complimentary to the general state of the university education in America, and is partly explainable from the strong competition for students which, characteristic of most of the colleges, is often seen in the graduate schools as well. It is to be hoped that this spirit will gradually disappear. The sooner all the graduate schools realize that their interests are absolutely identical the better for university education in America. The smallest minimum time of actual residence where the degree is sought that is anywhere prescribed for the doctor's degree is one year. Generally it is the last year of residence that is thus demanded. Wisconsin stipulates that either the last year or the first two years be spent in residence there. At some of the universities there are regulations concerning the minimum number of hours of lectures to be taken; at Columbia, for instance, candidates for either the master's or the doctor's degree are expected to attend lectures for at least four hours a week in the major subject, and two hours a week in each of the minors, and a seminar must be attended in the major subject. At Johns Hopkins each minor subject is expected to be followed for a year, the first minor to about double the extent of the second. Most of the universities, however, leave the graduate student free in this respect, justly regarding the direction and advice of the professor as a better guide than hard and fast regulations. Nearly everywhere a reading knowledge of French and German, and in many institutions a similar knowledge of Latin, are demanded of the candidate. The requirements of a dissertation embodying original research, and of examinations, are enforced at all the prominent institutions. In the management of the examinations the practice of the various institutions differs widely. In many both written and oral examinations must be passed, and often the candidate must pass an oral examination at least on his major subject, and defend his dissertation, before the whole faculty — a custom which ought to be made universal. Fifteen at least of the universities granting the doctor's degree require the dissertation, when accepted, to be printed ; in most cases where this is done a stated number of copies must be furnished, free of cost to the institution, to its library, for distribution among other institutions at home and abroad.

Concerning the master's degree, as has been said above, much less uniformity prevails. The Ph. D. degree was so distinctively a new departure when first introduced into America that it was easier to establish regulations for it which should be at variance with old-established usage ; but the master of arts was as old as the college itself, and a firmly fixed tradition gave it, for many years, as a matter of course, after a certain interval of time, to those bachelors who were willing to pay a moderate amount for the privilege. Only rarely was any evidence of continued study demanded. After the middle of the present century, however, this custom was viewed with increasing disfavor, and one college after another abolished it. Requirements of residence and study were established, or of study elsewhere than at the institution granting the degree, with an examination as a test. But these requirements were made on two different principles. In some places the master's degree was viewed as an advanced baccalaureate, and requirements of certain "courses," covering a certain number of hours of attendance, adopted. Elsewhere it was regarded as a sort of minor doctor's degree, and the requirements arranged accordingly, *i. e.*, attendance for a certain minimum period, without stipulation of the number of hours, and a thesis or essay. Columbia seems to have gone farthest in this respect, demanding work in three subjects, as for the doctor's degree. In all cases, however, under both systems alike, the time spent in residence for the master's degree may count towards the doctorate. The minimum term of residence is everywhere a year, except that the University of Michigan is satisfied with six months from its own graduates. Clark university and Johns Hopkins do not grant the master's degree separately from the doctorate; at Bryn Mawr it may be given separately only to graduates of that college.

The better and more logical plan seems to be the separation of the master's degree in principle from the doctor's. While both go back to the same beginning, and when first bestowed in European universities meant about the same thing, their courses of development diverged, England holding to the master of arts and Germany substituting for it the doctorate in philosophy, to correspond with that in law and medicine, and everywhere doing away with the baccalaureate, except as transferred to the gymnasia and represented by the *testimonium maturitatis*. It is interesting, and characteristic for the peculiar development of American educational forms, that the two divergent branches of the parent stem should have been brought together again in our universities. There will always be a considerable number of students who wish to continue their work beyond the bachelor's degree, but along the same lines, and do not care to enter upon the detailed research necessary for the doctorate. For these the master's degree, administered on the first plan, is most appropriate. Those, on the other hand, who seek the doctorate are mostly indifferent to the master's degree.

The methods of study and instruction differ but slightly from those in vogue in the German university, and thus far have yielded excellent results. The differences are mainly such as result naturally from the greater burdening of the American professor with routine work, and from the varying conditions of previous training on the part of the students. In general, the "lecture," or *freier Vortrag*, is less common than in Germany, though gradually supplanting the recitation even in the upper classes of the college; in the opinion of the present writer, the lecture is still far from receiving its due development among us. Its value in the exposition of the fundamental principles of the various sciences is not yet everywhere fully recognized. "Seminar" methods are now very widely used even where the constitution of the class is much less restricted than in the German seminars. The American seminar is of course very variously administered, depending on the ability of those in charge and the preparation of the students. The professors, so far as their other prescribed tasks allow, set the example of individual scientific research. It cannot yet be said, however, that this is made easy for the American professor.

An interesting chapter in the history of American education, and unfortunately one that cannot yet be brought to a close, concerns the fight made against the outrageous practice of awarding the doctorate in philosophy as an honorary degree. Awarded first by Yale in 1860 as strictly a specialist's degree, it has been jealously guarded by the more reputable institutions, while the less scrupulous colleges seized upon it with avidity as a new advertisement for themselves. Several learned societies, following the lead taken by the American philological association in 1881, set themselves vigorously against the abuse, and in 1896 a convention of graduate students held at Baltimore strongly condemned the practice. The sentiment of the enlightened public is gradually being brought to condemn the custom, though the rate of progress suffers considerable variation from year to year. The following table shows the figures for certain years:

NO. OF PH. D. DEGREES GRANTED IN UNITED STATES	1873	1884	1889	1894	1895	1896	1897	1898
On examination	25	28	121	233	234	239	227	304
Honoris causa	17	36	50	33	34	27	30	15
Ratio of honorary Ph. D. to Ph. D. on examination	68%	128%	41%	14%	15%	9 1-2%	13%	5%

With the equipment of laboratories, museums and libraries, indispensable for research, the American universities are now fairly well, and some of them abundantly, provided. Many of the laboratories are the gift of private individuals; sometimes the buildings only have been thus provided, sometimes the equipment only, sometimes both. The institutions situated in or near large cities have in addition the advantage of the public museums and libraries; thus, to mention but a few instances, Harvard is within easy reach of the Boston museum of fine arts and the Boston public library, besides having under her own control several excellent museums; Columbia is close to the Metropolitan museum of art, the American museum of natural history, and others; the Johns Hopkins students can easily reach the great national collections at Washington, and so on. The western universities are not as yet so highly favored in this respect.

The growth of the university and college libraries in the United States is hardly less than phenomenal. The largest are the following: Harvard, 524,000 vols.; Chicago, 309,000; Yale, 290,000; Columbia, 260,000; Cornell, 211,000; Pennsylvania, 160,000. It must be said, however, that the excellence of the library is not always indicated by its size. The liberal and practical spirit in which American university libraries are administered is very striking; of the cumbersome methods and vexatious restrictions so common in European libraries little is to be found.

V PUBLICATIONS OF AMERICAN UNIVERSITIES

From a number of the universities of the United States issue serial publications of a scientific character, and occasional learned works, written or edited by professors and advanced students of those institutions. Some of the universities issue these at their own expense, the entire publication being under the immediate control and direction of the institution, as at Chicago, others through arrangements made with publishing houses. The following list of the chief publications of six of the leading universities will afford an idea of the activity prevailing in this field:

1 **Harvard university** — Some departments of study issue periodicals or yearly volumes, embodying the work of instructors and students at the university. Such are:

Harvard Oriental Series. Vols. I–V.
Harvard Studies in Classical Philogy. Yearly. Vols. I–X.
Studies and Notes in Philology and Literature. Yearly. Vols. I–VII.
Harvard Historical Studies. Vols. I–VII.
Quarterly Journal of Economics; now in thirteenth year.
Annals of the Observatory of Harvard College. Vols. I–XXXVI.
Contributions from the Cryptogamic Laboratory. Nos. 1–40.
Publications of the Museum of Comparative Zoölogy: Bulletins, vols. I–XXXII; Memoirs, vols. I–XXII.
Contributions from the Zoölogical Laboratory. Nos. 1–86.
Publications of the Peabody Museum of American Archæology and Ethnology: Reports, Nos. 1–31; Papers, Nos. 1–6; Memoirs, Nos. 1–5.

2 **Johns Hopkins university** — The Johns Hopkins press issues the following, edited by professors of the university:

American Journal of Mathematics. Quarterly. Vols. I–XXI.
American Chemical Journal. Monthly. Vols. I–XXI.
American Journal of Philology. Quarterly. Vols. I–XX.
Studies from the Biological Laboratory.
Studies in History and Politics. Monthly. Vols. I–XVII; also eighteen extra volumes.
Johns Hopkins Hospital Reports. Vols. I–VII.
Contributions to Assyriology, etc. Vols. I–IV.
Memoirs from the Biological Laboratory. Vols. I–IV.
Modern Language Notes. Monthly. Vols. I–XIV.
Journal of Experimental Medicine. Bi-monthly. Vols. I–IV.
American Journal of Insanity. Quarterly.
Reports of the Maryland Geological Survey.

3 **University of Pennsylvania** — The following are issued under the editorial supervision of the university publications committee. They are issued for the most part at irregular intervals.

Series in Philology, Literature and Archæology.
Series in Philosophy.
Series in Political Economy and Public Law.

Series in Botany.
Series in Zoölogy.
Series in Mathematics.
Series in Hygiene.
Series in Astronomy.

The museums of archæology and palæontology also publish occasional reports.

4 **Columbia university** — The Columbia university press is a private corporation, the trustees of which must be members of the teaching staff, and its presiding officer the president of the university. Up to the present time it has issued sixteen volumes, mostly by present or former members of the university.

From the university issue the following series of studies and contributions, some few of them through regular publishing channels:

Biological Contributions from C. U.
C. U. Contributions to Philosophy, Psychology and Education.
Contributions from the Electrical Engineering Department of C. U.
Contributions from the Geological Department, the Herbarium, the Mineralogical Department, the Observatory.
Memoirs from the Department of Botany.
Studies from the Analytical and Assay Laboratories, the Department of Pathology.
Studies in History, Economics and Public Law.

The following journals are issued under the direction of members of the faculty:

Bulletin of the American Mathematical Society.
Bulletin of the Torrey Botanical Club.
Educational Review.
Political Science Quarterly.
School of Mines Quarterly.

5 **University of Wisconsin** — The university issues four series of publications, known as the Bulletins of the University of Wisconsin, under the direction of a committee consisting of the president and several professors.

Series in Economics, Political Science and History. Vols. 1 and 2.
Series in Science. Vols. 1 and 2.
Series in Language and Literature. Vol. 1.
Series in Engineering. Vols. 1 and 2.

6 **University of Chicago** — The University press forms one of five divisions in the constitution of the university, and is managed by a director appointed by the trustees. The department of publication, one of its parts, issues the following journals, edited by professors of the university :

Journal of Political Economy. Quarterly.
Journal of Geology. Bi-monthly.
Astrophysical Journal. Ten nos. a year.
American Journal of Sociology. Bi-monthly.
Biblical World. Monthly.
American Journal of Semitic Languages and Literature (continuation of : Hebraica). Quarterly.
Botanical Gazette. Monthly.
School Review, Ten nos. a year.
American Journal of Theology. Quarterly.

Several series of "Studies" have also appeared. These are :

Contributions to Philosophy. I–IV.
Economic Studies. I–IV.
Studies in Political Science. I–III.
Studies in Classical Philology. I–V.
Germanic Studies. I–III.
English Studies. I.
Physiological Archives. I.
Anthropological Bulletins. I, II.

The press also issues from time to time books, particularly those of scientific value.

VI FELLOWSHIPS AND SCHOLARSHIPS. GIFTS AND ENDOWMENTS FOR UNIVERSITIES, PARTICULARLY FOR RESEARCH

The generosity of private individuals towards education, which in its largest form has made possible the foundation of such institutions as Johns Hopkins, Cornell and Chicago, manifests itself likewise in the humbler guise of gifts and endowments for special purposes, in the establishment of museums and laboratories, of funds for the maintenance of these or of libraries, in the foundation of scholarships and fellowships intended to aid students of high promise in the prosecution of their studies, or to reward those who have shown conspicuous merit. In general, it may be said that the specifically college part of an institution fares much better than the university or graduate part in these respects. The reasons are not far to seek. Prizes naturally appeal more to the younger students, and are more easily awarded in connection with the definitely arranged work of undergraduate courses; it is harder for undergraduates to support themselves by giving private instruction, and in other ways, than for graduate students; the need of "dormitories" or residence halls, which few colleges can afford to erect from their own funds, is more pressing for undergraduates; and, finally, of the college-trained men, from whom the larger number of endowments come (though to this there are many striking exceptions), not a very large proportion have had actual experience of graduate work, and do not so readily recognize the importance of it, and their loyalty to their *almæ matres* is accordingly concentrated chiefly upon the collegiate rather than the university part, where the latter exists.

Scholarships and fellowships are much more bountifully supplied, for graduates as well as undergraduates, in the universities of private foundation than in the state universities. In the latter tuition is either free or considerably cheaper than in the former, and the need for aid to the student correspondingly less. Harvard, Yale, Columbia, Cornell, Princeton, Pennsylvania, Johns Hopkins, Bryn Mawr, and Chicago are particularly well supplied in this respect; Chicago has nearly eighty fellowships to award each year, Columbia and Pennsylvania each over thirty. The amount paid by a fellowship to the holder varies from $120 (as some at Chicago) to $800; the most usual figure is about $500. The value of a fellowship may, however, be decreased by the requirement, made at some universities, that all tuition fees must be paid by the holders; Columbia is perhaps the most liberal in exempting the holders of fellowships from such payments. In some universities certain duties in the way of instruction, etc., are expected of the fellows.

The differences between scholarships and fellowships are in general briefly these: The fellowships are awarded only to graduates; a scholarship may be for graduates or for undergraduates; the scholarships are awarded generally for a single year only, and without possibility of renewal, while some fellowships run for several years, and the annual ones may be reassigned once or twice to the same person.

The fellowship system was first extensively used by Johns Hopkins, and has rapidly become a striking feature of American university organization. The object sought has been in most cases completely attained, viz., to bring together a body of picked men or women, who display high ability and good previous training for the work of research, and spare them the necessity, so trying to earnest students, of earning their living while carrying on their advanced studies. Some few of the fellowships are so organized as to permit part or the whole of the time over which they extend to be spent in study abroad; Bryn Mawr in particular offers three European fellowships, and for 1898–9 Harvard made twelve appointments to non-resident fellowships.

Some of these fellowships are paid out of the general funds of the university awarding them; others are maintained by the proceeds of private gifts and endowments. At some institutions the fellowships are assigned permanently to certain departments; at others the majority of them are given to the most promising candidates, little regard being had to an even distribution among departments. The fellowships and scholarships founded by individuals are generally attached to some one department. Among the notable benefactions of this sort are: At Harvard, the Kirkland fellowship, founded by Bancroft in 1871; the Walker fellowship (1881), generally given to a student of ethics and philosophy; the John Tyndall fellowship (1885), in physics;

the Robert Treat Paine fellowship of social science (1887); the Hemenway fellowship of American archæology and ethnology (1891). At Columbia, the Tyndall fellowship, similar to that at Harvard, both of them, with others elsewhere, having been founded by Professor Tyndall; the Barnard fellowship, in physical science, established by will of the late President Barnard; the Henry Drisler fellowship in classical philology; the Mosenthal fellowship in music; the Schiff fellowship in political science. The University of Pennsylvania possesses a permanent fund of $500,000, the gift of Provost Harrison, the income of which is partly applied to nineteen fellowships, fourteen of which are permanently assigned to particular departments. This fund also supplies five remarkable *senior fellowships*, yielding $800 a year each, open only to doctors of philosophy of the university. Johns Hopkins awards the Bruce fellowship in biological science. Cornell offers, among others, two President White fellowships, one in modern history and one in political and social science, and three Susan Linn Sage fellowships in philosophy.

Several fellowships at the American schools of classical studies at Athens and in Rome are also offered to graduates of American universities; of these the Hoppin fellowship at Athens, and the fellowship in Christian archæology at the school in Rome, are private foundations.

There is, perhaps, no prominent institution in the United States devoted to the higher education which does not possess some practical demonstration of the determination of individuals to further the work, not only of instruction, but of research as well. The greater gifts result in museums, laboratories or libraries; such are the Semitic museum and the Fogg art museum at Cambridge, the Avery architectural library at Columbia, the White historical library at Cornell, and many more. The magnificent library building at Columbia is the gift of her president; a great fund, presented by the Duc de Loubat, will one day become available as a library fund at Columbia; the generosity of several graduates of Yale brought to her the admirable classical library of Ernst Curtius, as the historical library of Bluntschli was brought to Baltimore; in Messrs. Stanford and Rockefeller and Mrs. Hearst the Leland Stanford, Jr., university, the University of Chicago and the University of California have found more than princely benefactors; the gifts of the patrons of Princeton, Cornell, Chicago are almost without number. In the Drisler classical fund Columbia possesses a means of supply for the purchase of books and illustrations, such as casts and photographs, for the better prosecution of the work in Latin and Greek. The Harvard astronomical observatory, among many splendid gifts, received in 1885 one of more than a quarter of a million dollars, the entire fortune of the late Robert Treat Paine, for purposes of astronomical research. Owing to the comparative lack of great fortunes in the southern states, the universities there have not fared so well; but the spirit is abroad there too, and the constant increase of wealth in those states is certain to be followed by the liberal extension of aid to the universities.

A very remarkable and encouraging feature of the generosity manifested in the United States towards institutions of learning is the fact that so many of the gifts, among them several of the largest, have come from men who had not enjoyed collegiate education. A case in point is the munificence of Mr. Fayerweather, a merchant of New York, who bequeathed in 1891 more than four millions of dollars to various colleges and universities, wisely refraining from adding, as many public spirited men of less judgment have done, to the superfluity of institutions already existing, and with equal wisdom leaving to the recipients of the funds the determination of the purposes for which the funds should be used. It is truly encouraging for the future of education in America that so many of her millionaires are willing to give freely of the fortunes that they have accumulated, and that those who give the most should set the example of entrusting the application of the funds to those who best understand the needs to be met.

VII SOME PRESENT UNIVERSITY PROBLEMS

> *Da muss sich manches Rätsel lösen,*
> *Doch manches Rätsel knüpft sich auch.*
> — *Faust.*

When the problems of education are all solved, education itself will be dead, and the need of it greater than ever. The entire range of education in the United States has been in a state of rapid transition for many years already, and nowhere have the changes been more constant than in the domain of college and university education. From the establishment of graduate courses at Yale in 1847 until the present day, probably no year has passed without seeing some new experiment tried, some old institution reorganized or new one founded. If the new institutions have often shown too little willingness to profit by the experience of others, or to adopt the ways and means of other lands, it must be remembered that the educational problem has been but one of many with which the leaders of thought in this country have been confronted, and that in the attempt to conform institutions to the spirit of the country it has been necessary first to discover, often at great pains and heavy cost to the experimenter, what that spirit was.

Naturally the most important question has been and still is that of organization. It has doubtless become apparent from the foregoing description that no two universities are just alike, and that the differences do not by any means concern unimportant points. Every possible variety of organization and administration seems to the observer — especially the foreign observer — to have been tried, except that of a consistent and rigid adherence to forms sanctioned by centuries of permanence in Europe.

The vacillation has come from uncertainty as to the true purposes of the university. In Europe these purposes were long ago settled : the university exists to train servants of the state, or, as prevailing in England, to train up a race of gentlemen who shall never forget the obligations of their caste. It is the glory of Germany that she has seen more clearly than other nations how truly the highest scientific training is none too good for her public servants.

The wholly different conditions prevailing in the United States have been reflected in the organization of our universities and colleges. There is no state religion, and the national constitution forbids the patronage or proscription of any sect ; consequently the theological faculty, originally the most important in the universities of western and northern Europe, found no state recognition. The practice of the law was subject to few restrictions, and indeed in at least one state is still open to every citizen of mature age, so that the schools of law, when they began at all, grew up mostly on a basis of private organization, with purely practical training as their object, and often underbid one another in their eagerness for students. With such exceptions as the nature of the profession brings with it, the regulation of the study and practice of medicine went the same course, proprietary schools being the most frequent form of organization for instruction in the healing art. As for the faculty of arts or philosophy, which, originally preparatory for one of the others, had in Germany been put on a par with them and made the doorway to the new profession of teaching in the state schools, its ground was partially covered by the curricula of the best colleges. The character of these colleges however resembled more nearly that of the German philosophical faculty of two centuries ago. The state systems of education did not at first include more than elementary schools, so that there was no great incentive for prescribing a college course for those persons who wished to teach in them ; nor would such a regulation have been popular in intensely democratic communities, or, in the poverty of many of the states, easily possible of fulfillment. Under these circumstances the European conception of a university was lost ; and when it began to be regained, different systems, imperfect and incongruous it is true, but still in many ways useful, had grown up to fill the needs which are supplied in Europe by the university. Other needs had made themselves felt in America even more keenly: the needs incident to the rapid settling and exploitation of a new country, where vast distances and a phenomenal growth of population made imperative some provision for training in the technical professions and mechanical arts. It is not strange, then, though it has been unfortunate for the country at large, that the last need to be recognized in education has been the need of thorough training in the humanities and in pure science, in what has been admirably well called[1] "disinterested scientific thinking, as distinguished from technical or commercial science."

American educators, then, are not yet at one as regards the true function of the university. In general, two opposing views are chiefly held. The purpose of the Leland Stanford, Jr., university is declared to be: To fit young persons for success in life. An admirable purpose, no doubt, but one which the university must share in common with many other institutions. Of a like breadth of conception is the avowed purpose of Ezra Cornell: I would found an institution where any person may find instruction in any study. The brilliant history of Cornell university is chiefly due to the wisdom of the men who have seen what limitations should be put upon this great plan. This view of the true function of a university is chiefly prevalent in the west; one sometimes hears it said that the western universities exist solely for the sake of the students, while some of the eastern universities seem to think that the students exist chiefly for the sake of the universities or of science at large. The universities of private foundation are proceeding more and more on the assumption that their function is to train, in their graduate departments or faculties of philosophy, specialists, as teachers, and to a less extent as investigators; those which have raised some of their professional schools to true university rank by refusing admission to all who have not received a non-professional degree aim not merely to instruct the future physicians and lawyers in the technique of their professions, but to give them true scientific insight and philosophic grasp.

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[1] By Professor West of Princeton, in the Educational Review for October, 1899. So too Professor Coulter (*Ibid.* IV [1892] 366 ff): "The university is in the largest sense a place for the emancipation of thought."

Until there is agreement as to the true function of a university, there cannot be agreement as to their organization and administration. Whoever holds to the Stanford idea will wish to see all departments of instruction put on precisely the same plane; whoever believes that scientific research is the highest and noblest aim of education will demand for the university an organization which shall emphasize this, leaving to other institutions the teaching which is entirely practical.

As a whole, American universities seem to be trying to do too many things at once, generally with an altogether inadequate equipment of instructors, and with an insufficient endowment. Each university aims to cover the entire field of instruction; the result is that the professors, who are, except in the professional faculties, almost always college instructors as well, are cruelly overburdened with teaching and administrative duties, with the inevitable result that few of them can carry on much research. The organization of most of our universities is too complicated. Many professors have to attend two, three, or even four faculty meetings each month, and serve on committees without number; some of them are even expected to do purely clerical work.

Perhaps the most important of American university problems at present, as bearing directly upon the necessary organization and determining it, is the relation of university or graduate work to undergraduate work and to professional training.

With the very liberal regulation, often lack of regulation, exercised by the state governments over the practice of the professions of law and medicine, the number of practitioners has inevitably become excessively great. The need of stricter control has been seen, and many states have increased the requirements for admission to practice. That any of the states will require a complete collegiate education as a preliminary to admission to practice is a very remote possibility. It rests with the universities to raise the plane of their professional schools so that only the fittest will survive. Experience has shown that raising the standard of an institution is surely followed in a few years by an increase in numbers as well as in the quality of students entering. A beginning has already been made, as indicated above, for the professional schools of law and medicine. As for the technical schools, most of them, whether connected with the universities or not, have been too ready to admit students on very slight requirements. Perhaps in time the best of these will see that a good preliminary training ought to be demanded of their students, and so put themselves also on a university level.

Enough has been said, it is hoped, to show that there is little chance of re-establishing in any American university the traditional four faculties, unaccompanied by any other departments of instruction. If means were abundant, it would perhaps be advisable to separate entirely from the universities the technical schools, except such as should be willing to demand a preliminary degree for admission and to develop more fully the theoretical and research side of their teaching. At present undue prominence is given to the technical schools in many institutions, largely because they are the best paying parts, and the tone of the whole institution, as an organization that should exist as largely for the advancement of research as for any other cause, is distinctly lowered thereby.

The graduate school, or faculty of philosophy, bears closer relations with the collegiate course than can be borne by any professional faculty. The overburdening of professors alluded to above might be remedied by the appointment, where endowments would allow, of professors exclusively for graduate work on the lines of the faculty of philosophy, who should be able to engage in extended research work with advanced students. Hitherto no institution has been in a position to do this in any large degree. Nor has it been possible to try on a really instructive scale the experiment of a university without college or technical schools. Whether such a university could properly maintain a faculty of theology, it is hard to say. The Union theological seminary in New York, while under Presbyterian management, is in many respects a real university faculty, and the same may be said of some few others. The relations between Columbia and the Union seminary have become close, with the good result that many students of the latter attend courses at Columbia under the faculties of political science and philosophy, and are eligible for Columbia degrees.

Concerning the precise relation to be borne by the graduate work to that of the college, no general agreement has yet been reached. Even where the two are carefully separated, no such great dissimilarity in methods exists as prevails in Germany between the gymnasium and the university. Where, as at Harvard, the lines of demarcation are partly obliterated, the change from one method to another is very gradual. Johns Hopkins aims above all at producing specialists, and even her college courses are largely shaped to this end. The results certainly justify her policy.

The preparation which the candidates for admission to the graduate schools bring with them is naturally very varied. For many kinds of advanced work, the general training given in the college is not enough; so that the student, in order not to lose much valuable time afterward, has to begin his special studies before receiving his first degree. This is encouraged by the system in vogue at Columbia, especially in the case of students looking forward to medicine or the law. A tendency to over-early specialization is showing itself in many places; the students are naturally anxious to begin the active duties of life as soon as possible, and are unwilling to postpone the acquirement of the professional degree until the 25th or 26th year of their age. A remedy for this has been sought in several directions, but none of the plans tried has been successful enough to prevail over the others. The trouble seems to lie largely in the loss of time during the earlier school years. The pupils are not taken in hand early enough, nor do they receive severe enough training. With the improvement in organization and methods which is everywhere noticeable, it ought to be possible after a few years to send young men and women to college at sixteen as well prepared as they are now at seventeen or eighteen. With this done, the college course might well be shortened to three years.

It may be asked, what of the *Lehrfreiheit* and *Lernfreiheit*, the freedom for teacher and learner, as they are claimed for the universities of Germany, in those of America? As for the first, the American university professor has little cause for complaint; whatever may have been the case twenty-five years ago, he may now teach what he likes nearly everywhere, though now and then the regents of a state university, or the religious body controlling a divinity school, raise noisy protest. In one respect there is yet much room for improvement: as yet no serious effort has been made to introduce one of the most valuable features of the German university system, the system of *Privatdozenten*. It is not yet possible, any more than it was for Bancroft in 1821, for a young man of ability to secure the right of lecturing at a university by merely proving that he is competent to do it. The introduction of this custom has been several times attempted, but so far with quite insignificant results.

As for the *Lernfreiheit*, that too has become naturalized among us; even the undergraduate enjoys a large measure of it, largest in those colleges where the elective system has taken firm root. One development of it, the migration of students from one university to another without loss of standing, is still unsatisfactory. The custom is highly desirable, and is steadily gaining ground in America; it is much commoner from the colleges to the purely professional schools, students of law and medicine naturally seeking the large cities; the chief obstacles to its adoption are the differences between the various universities in the matter of organization and of requirements for degrees, and the close connection between college and university which lead the college graduate in many instances to remain for graduate work where he has taken his bachelor's degree, out of pure attachment to his alma mater. According to a writer in the Educational Review,[1] in 1892–3 at Harvard 119 out of 206 graduate students, or nearly 58 per cent, had received degrees at other institutions; at Johns Hopkins 201 out of 270, or 74 per cent; at Yale 59 out of 125, or 47 per cent; at Cornell 119 out of 182, or 65 per cent; at Columbia (faculties of philosophy and political science) 109 out of 212, or 51 per cent; total of these five, 607 out of 995, or 61 per cent. In 1898–9, however, of the graduate students registered in the graduate school at Harvard, only 39 per cent had received their degrees elsewhere; at Yale only 43 per cent.

It is interesting to observe how rapidly the spirit of independence with responsibility is developing among the graduate students. At twenty-two or more institutions which maintain graduate schools the students in these have formed themselves into associations for the furtherance of their mutual interests, and these clubs have formed a national federation which holds annual meetings, where papers are read, and questions affecting the whole range of graduate work are discussed. The interest shown in these proceedings, and the intelligent spirit in which many important questions are approached, make these associations into a most valuable adjunct to the work of the graduate schools. At the fourth annual convention, held at Cambridge, Mass., in December, 1898, addresses were delivered by President Eliot and Professor J. W. White, of Harvard, and papers were read, followed by animated discussion, on the following topics: The migration of students; the regulations concerning major and minor subjects; specialized scholarship vs. preparation for teaching, as a basis for graduate study; the master's degree; graduate studies in European universities; the regulation of graduate to undergraduate courses. The federation of graduate clubs also carries on a determined opposition to the practice of conferring the Ph. D. *honoris causa.*

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[1] Gross, Chas., E. R. VII, 26 ff.

A project vigorously advocated by many eminent American educators is the foundation of a national university for the United States, to be situated at Washington, to be controlled by a board of regents under the chairmanship of the president of the United States, and to be constituted on the true university basis of admitting to any of its schools only those who have received the preliminary training shown by the possession of a bachelor's degree. The plan is an alluring one from some points of view. The chief difficulty would seem to be in the matter of endowment. To add another institution of learning to those that swarm in the United States, unless the new comer should at once outrank them all in the magnitude and completeness of its equipment, and unless its rise should imply the setting of a number of the minor lights, would be a very doubtful service to the cause of university education. So far no endowments at all comparable with those of half-a-dozen of the universities already existing have appeared; and it is extremely doubtful whether congress could be depended upon to give the institution the thoroughly adequate support without which it must remain at best one additional "torso of a university."

NOTE: Since the above lines were written, a large and representative committee appointed by the National Educational Association to consider the question has reported against the establishment of such a national university.

APPENDIX A

Some statistics of graduate schools in the United States

The peculiarly complicated and varying organization of the American college-university makes it impracticable to draw up satisfactory tables of statistics on such simple lines as would suffice if the universities of Germany, for instance, were to be thus treated. Only such figures are given here as suffice to show the rapid increase in the numbers of graduate, non-professional students during the last twenty-eight years, and the attendance at the best known institutions in 1898–99:

I

Number of graduate students (*excluding professional schools*) *1871–87*

1871–72	198	1880–81	460
1874–75	369	1883–84	778
1877–78	414	1886–87	1 237

II

Attendance of graduate students (*exclusive of professional schools*)
1889–97

1889–90	1 998	graduate students	at	114	institutions.
1891–92	2 900	"	"	121	"
1893–94	3 026	"	"	135	"
1895–96	3 756	"	"	122	"
1896–97	4 392	"	"	146	"

NOTE: It should be borne in mind that (except for 1889–90) no account is here taken of non-resident graduate students, and that an overwhelming majority of graduate students is to be found in attendance at the 23 institutions mentioned in Table III. A very great number of institutions report less than half-a-dozen graduate students.

III

Statistics of the 23 most prominent institutions reporting graduate students, 1898–9 [1]

	Instructors giving graduate instruction	Graduate students (excluding professional schools)			Remarks
		Men	Women	Total	
1. Brown university	36	30	39	69	
2. Bryn Mawr college	25	0	61	61	Women only
3. University of California	40	101	90	191	
4. University of Chicago	130	581	276	857	Includ'g summer quarter
5. Clark university	10	48	0	48	Women not admitted
6. Columbia university (including Barnard college)	95	260	82	342	Women admitted thro' Barnard
7. Columbian university (Washington, (D. C)	26	59	9	68	
8. Cornell university	328[2]	109[2]	33[2]	142[2]	
9. Harvard university	130	329	0	329	Women admitted to some courses and only thro' Radcliffe; degree of A. M. given by Radcliffe, Ph. D., not given to women
10. Johns Hopkins university	64	210	0	210	Women not admitted
11. Leland Stanford, Jr., university	32	58	39	97	
12. University of Michigan	45	49	17	66	
13. University of Minnesota	35	104	52	156	
14. University of Missouri	18	18	7	25	
15. New York university	27	124	35	159	
16. University of Pennsylvania	55	124	34	158	
17. Princeton university	37	128	0	128	Women not admitted
18. Radcliffe college (closely connected with Harvard)	57	0	58	58	Women only
19. Vanderbilt university	4	31	6	37	
20. Wellesley college	47	0	27	27	Women only; Ph. D. not given
21. Western Reserve university	31	16	12	28	
22. University of Wisconsin	47	102	26	128	
23. Yale university	112	241	42	283	

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[1] The figures are taken (except for Cornell) from the "Graduate Handbook" for 1899.

[2] Including professional schools.

APPENDIX B

Brief bibliography

The chief source of information concerning all educational matters in the United States is the admirable series of reports of the commissioner of education, issued from the United States bureau of education, Washington, D. C. These are issued for each academic year (*i. e.*, September–June), generally within two years after the close of the academic year for which the report is drawn up. The last issued to date (October, 1899) is the report for 1896–7. These contain not only exhaustive statistics, but also reviews of the educational progress of the year, and valuable articles by various writers on educational questions at home and abroad.

Of accounts of the American system of higher education the following may be reported here:

Compayré, G. L'enseignement supérieur aux États-Unis. Paris, 1896. (Rapports de la délégation envoyée a l' Exposition Colombienne de Chicago. 1893, 1re partie.)

de Coubertin, Pierre. Universités Transatlantiques. Paris, 1890. (Largely *impressions de voyage.*)

Zimmermann, Athanasius, S. J. Die Universitäten in den Vereinigten Staaten Amerikas. Ein Beitrag zur Culturgeschichte. Freiburg, Baden, 1896. (Ergänzungshefte zu den "Stimmen aus Maria Laach." No. 68, XVII. Ergänzungsband.) An excellent account in brief compass, with a selected bibliography.

Bryce, James. The American Commonwealth. N. Y. Vol. II.

Schoenfeld, H. Amerikanische Staatsuniversitäten. Article in the Pädagogisches Archiv, Vol. XXXVIII (1896).

Report of Commissioner of Education. 1889–90, vol. II, p. 783 ff. (On organization of the state universities.)

Thwing, C. F. The American College in American Life.

Tappan, H. P. University Education. N. Y., 1851.

Burgess, J. W. The American University: When shall it be? Where shall it be? What shall it be? Boston, 1884.

Haven, E. O. Universities in America. Ann Arbor, 1863.

Johnston, W. P. Work of the University in America. Address before the South Carolina college. Columbia, S. C., 1884.

Butler, N. M. Introduction to Paulsen's German Universities, Engl. translation. N. Y., 1895.

Howard, G. E. Evolution of the University. Lincoln, Nebraska, 1890.

—— The American University and the American Man. Palo Alta, Cal., 1893.

Eliot, C. W. Educational Reform. Essays and addresses. N.Y., 1898.

Ladd, G. T. Essays on the Higher Education. N. Y., 1899.

For the history and development of the individual universities the "annual catalogues" or "registers" published by the institutions themselves often give valuable material. In some of the universities it is the custom to publish the "annual reports" of the president or chancellor; these are of great importance for an understanding of the policy of the university in question. Harvard, Columbia, Johns Hopkins and others publish such reports—an example worthy of imitation by every large institution of learning.

The Federation of graduate clubs has published several small volumes of great interest. These at first gave merely the courses offered to graduate students at the most prominent institutions; but the Graduate handbook for 1899 (printed for the federation by Lippincott, 1899—unfortunately not in the market) contains the proceedings of the meeting at Cambridge alluded to on p. 62.

In the successive volumes of the Educational review (N. Y., 1891——) will be found many valuable articles on a wide range of topics connected with American university education, *e. g.:* Davis, H., Limitations of state universities, I, 426 ff. Butler, N. M., On permitting students to take studies in professional schools while pursuing a regular undergraduate course, III, 54 ff. Jordan, D. S., The policy of the Stanford university, IV, 1 ff; The educational ideas of Leland Stanford, VI, 136 ff. Hyde, W. D., Organization of American education, IV, 209 ff. Coulter, J. M., The university spirit, IV, 366 ff. Low, Seth, Higher education in the U. S., V, 1 ff. von Holst, H. E., The need of universities in the U. S. (the famous Chicago address), V, 105 ff. Gross, Chas., Colleges and universities in the U. S., VII, 26 ff. Santayana, G., Spirit and ideals of Harvard univ., VII, 313 ff. Taylor, J. M., Graduate work in the college, VII, 62 ff. Hinsdale, B. A., Spirit and ideals of the University of Michigan, XI, 356 ff., 476 ff. Baird, W., The University of Virginia, XII, 417 ff. Draper, A. S., State universities of the middle west, XI, 313 ff. Edgren, H., American graduate schools, XV, 285. *Anon.*, The status of the American professor, XVI, 417 ff. In vol. XVI, pp. 503 ff., is reproduced an interesting article published in the London Spectator of Feb. 12, 1898, entitled, What is a university?

Department of Education
for the
United States Commission to the Paris Exposition of 1900

MONOGRAPHS ON EDUCATION
IN THE
UNITED STATES

EDITED BY
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7

EDUCATION OF WOMEN

BY

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This Monograph is contributed to the United States Educational Exhibit by the State of New York

EDUCATION OF WOMEN

The higher education of women in America is taking place before our eyes on a vast scale and in a variety of ways. Every phase of this great experiment, if experiment we choose to call it, may be studied almost simultaneously. Women are taking advantage of all the various kinds of education offered them in great and ever-increasing numbers, and the period of thirty years, or thereabouts, that has elapsed since the beginning of the movement is sufficient to authorize us in drawing certain definite conclusions. The higher education of women naturally divides itself into college education designed primarily to train the mental faculties by means of a liberal education, and only secondarily, to equip the student for self-support, and professional or special education, directed primarily toward one of the money-making occupations.

COLLEGE EDUCATION

Women's college education is carried on in three different classes of institutions: coeducational colleges, independent women's colleges and women's colleges connected more or less closely with some one of the colleges for men.

1. **Coeducation** — Coeducation is the prevailing system of college education in the United States for both men and women. In the western states and territories it is almost the only system of education, and it is rapidly becoming the prevailing system in the south, where the influence of the state universities is predominant. On the other hand, in the New England and middle states the great majority of the youth of both sexes are still receiving a separate college education. Coeducation was introduced into colleges in the west as a logical consequence of the so-called American system of free elementary and secondary schools. During the great school revival of 1830–45 and the ensuing years until the outbreak of the civil war in 1861, free

elementary and secondary schools were established throughout New England and the middle states and such western states as existed in those days. It was a fortunate circumstance for girls that the country was at that time sparsely settled; in most neighborhoods it was so difficult to establish and secure pupils for even one grammar school and one high school that girls were admitted from the first to both.[1] In the reorganization of lower and higher education that took place between 1865 and 1870 this same system, bringing with it the complete coeducation of the sexes, was introduced throughout the south both for whites and negroes, and was extended to every part of the west. In no part of the country, except in a few large eastern cities, was any distinction made in elementary or secondary education between boys and girls.[2] The second fortunate and in like manner almost accidental factor in the education of American women was the occurrence of the civil war at the formative period of the public schools, with the result of placing the elementary and secondary education of both boys and girls overwhelmingly in the hands of women teachers. In no other country of the world has this ever been the case, and its influence upon women's education has been very great. The five years of the civil war, which drained all the northern and western states of men, caused women teachers to be employed in the public and private schools in large numbers, and in the first reports of the national bureau of education, organized after the war, we see that there were already fewer men than women teaching in the public schools of the United States. This result proved not to be temporary, but permanent, and from 1865 until the present time not only the elementary teaching of boys and girls but the secondary education of both has been increasingly in the hands of women.[1] When most of the state universities of the west were founded they were in reality scarcely more than secondary schools supplemented, in most cases, by large preparatory departments. Girls were already being educated with boys in all the high schools of the west, and not to admit them to the state universities would have been to break with

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[1] That their admission was due in large part to the stress of circumstances is shown by the fact that in the very states in which these coeducational schools had been established there was manifested on other occasions a most illiberal attitude toward girls' education. In the few cities of the Atlantic seaboard, where European conservatism was too strong to allow girls to be taught with boys in the new high schools, and where there were boys enough to fill the schools, girls had to wait much longer before their needs were provided for at all, and then most inadequately. In Boston, where the boys' and girls' high schools were separated, it was impossible until 1878 for a Boston girl to be prepared for college in a city high school, whereas, in the country towns of Massachusetts, where boys and girls were taught together in the high schools, the girl had had the same opportunities as the boy for twenty-five or thirty years. Indeed, it was not until 1852 that Boston girls obtained, and then only in connection with the normal school, a public high-school education of any kind whatsoever. In Philadelphia, where boys and girls are taught separately in the high schools, no girl could be prepared for college before 1893, neither Latin, French, nor German being taught in the girls' high school, whereas, for many years the boys' high school had prepared boys for college. In Baltimore the two girls' high schools are still, in 1900, unable to prepare girls for college, whereas the boys' high school has for years prepared boys to enter the Johns Hopkins university. The impossibility of preparing girls for college is only another way of stating that the instruction given is very imperfect.

[2] The magnitude of this fact will be apparent if we reflect that here for the first time the girls of a great nation, especially of the poorer classes, have from their earliest infancy to the age of eighteen or nineteen received the same education as the boys, and that the ladder leading, in Huxley's words, from the gutter to the university may be climbed as easily by a girl as by a boy. Although college education has affected as yet only a very few out of the great number of adult women in the United States, the free opportunities for secondary education have influenced

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the whole American people for nearly two-thirds of a century. The men of the poorer classes have had, as a rule, mothers as well educated as their fathers, indeed, better educated; to this, more than to any other single cause, I think, may be attributed what by other nations is regarded as the phenomenal industrial progress of the United States. Our commercial rivals could probably take no one step that would so tend to place them on a level with American competition as to open to girls without distinction all their elementary and secondary schools for boys. In 1892, girls formed 55.9 per cent, and in 1898, 56.5 per cent of all pupils in the public and private secondary schoools of the United States.

[1] In 1870 women formed 59.0 per cent; in 1880, 57.2 per cent; in 1890, 65.5 per cent; and in 1898, 67.8 per cent (in the North Atlantic Division 80.8 per cent) of all teachers in the public elementary and secondary schools of the United States (U. S. ed. rep. for 1897–98, pp. xiii, lxxv). It has been frequently remarked that the feminine pronouns "she" and "her" are instinctively used in America in common speech with reference to a teacher. Moreover more women than men are teaching in the public and private secondary schools of the United States (in 1898, women formed 53.8 per cent of the total number of secondary teachers, see U. S. ed. rep. for 1897–98, pp. 2053, 2069); whereas in all other countries the secondary teaching of boys is wholly in the hands of men.

tradition. Women were also firmly established as teachers in the secondary schools and it was patent to all thoughtful men that they must be given opportunities for higher education, if only for the sake of the secondary education of the boys of the country.[1] The development of women's education in the east has followed a different course because there were in the east no state universities, and the private colleges for men had been founded before women were suffered to become either pupils or teachers in schools. The admission of women to the existing eastern colleges was, therefore, as much an innovation as it would have been in Europe. The coeducation of men and women in colleges, and at the same time the college education of women, began in Ohio, the earliest settled of the western states. In 1833 Oberlin collegiate institute (not chartered as a college until 1850) was opened, admitting from the first both men and women. Oberlin was at that time, and is now, hampered by maintaining a secondary school as large as its college department, but it was the first institution for collegiate instruction in the United States where large numbers of men and women were educated together, and the uniformly favorable testimony of its faculty had great influence on the side of coeducation. In 1853 Antioch college, also in Ohio, was opened, and admitted from the beginning men and women on equal terms. Its first president, Horace Mann, was one of the most brilliant and energetic educational leaders in the United States, and his ardent advocacy of coeducation, based on his own practical experience, had great weight with the public.[2] From this time on it became a custom, as state universities were opened in the far west, to admit women. Utah, opened in 1850, Iowa, opened in 1856, Washington, opened in 1862, Kansas, opened in 1866,

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[1] In many cases in the west women made their way into the universities through the normal department of the university, being admitted to that first of all. The summer schools of western colleges, chiefly attended by teachers, among whom women were in the majority, served also as an entering wedge. (See Woman's work in America, Holt & Co., 1891, pp. 71–75.)

[2] Antioch college opened, however, with only 8 students in its college department, all the rest, 142, belonging to its secondary school.

Minnesota, opened in 1868, and Nebraska, opened in 1871, were coeducational from the outset. Indiana, opened as early as 1820, admitted women in 1868. The state University of Michigan was, at this time, the most important western university, and the only western university well known in the east before the war. When, in 1870, it opened its doors to women, they were for the first time in America admitted to instruction of true college grade. The step was taken in response to public sentiment, as shown by two requests of the state legislature, against the will of the faculty as a whole. The example of the University of Michigan was quickly followed by all the other state universities of the west. In the same year women were allowed to enter the state universities of Illinois and California; in 1873 the only remaining state university closed to women, that of Ohio, admitted them. Wisconsin which, since 1860, had given some instruction to women, became in 1874 unreservedly coeducational. All the state universities of the west, organized since 1871, have admitted women from the first. In the twenty states which, for convenience, I shall classify as western, there are now twenty state universities open to women, and, in four territories, Arizona, Oklahoma, Indian and New Mexico, the one university of each territory is open to women. Of the eleven state universities of the southern states the two most western admitted women first, as was to be expected. Missouri became coeducational as early as 1870, and the University of Texas was opened in 1883 as a coeducational institution. Mississippi admitted women in 1882, Kentucky in 1889, Alabama in 1893, South Carolina in 1894, North Carolina in 1897, but only to women prepared to enter the junior and senior years, West Virginia in 1897.[1] The state universities of Virginia, Georgia and Louisiana are still closed. The one state university existing outside the west and south, that of Maine, admitted women in 1872.

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[1] In every case I give the date when full coeducation was introduced; West Virginia, for example, admitted women to limited privileges in 1889.

The greater part of the college education of the United States, however, is carried on in private, not in state universities. In 1897 over 70 per cent of all the college students in the United States were studying in private colleges, so that for women's higher education their admission to private colleges is really a matter of much greater importance. The part taken by Cornell university in New York state in opening private colleges to women was as significant as the part taken by Michigan in opening state universities. Cornell is in a restricted sense a state university, inasmuch as part of its endowment, like that of the state universities, is derived from state and national funds. Nevertheless, there is little reason to suppose that Cornell would have admitted women had it not been for the generosity of Henry W. Sage, who offered to build and endow a large hall of residence for women at Cornell university. After carefully investigating coeducation in all the institutions where it then existed, and especially in Michigan, the trustees of the university admitted women in 1872. The example set by Cornell was followed very slowly by the other private colleges of the New England and middle states. For the next twenty years the colleges in this section of the United States admitting women might be counted on the fingers of one hand. In Massachusetts Boston university opened its department of arts in 1873, and admitted women to it from the first; but no college for men followed the example of Boston until 1883, when the Massachusetts institute of technology, the most important technical and scientific school in the state, and one of the most important in the United States, admitted women. This school, like Cornell, is supported in part from state and national funds. Very recently, in 1892, Tufts college was opened to women. In the west and south the case is different, and the list of private colleges that one after another have become coeducational is too long to be inserted here. Among new coeducational foundations the most important are, on the Pacific coast, the Leland Stan-

I *20 western states and 3 territories*

STATES	Total no. cols	Coed.	Men only
Ohio	35	29	3 R. C., 1 Luth., 1 P. E., Western reserve.
Indiana	14	9	2 R. C., 1 Luth., 1 Cong., Wabash college.
Illinois	31	24	5 R. C., 1 Ger. Ev., Illinois college.
Michigan	11	10	1 R. C.
Wisconsin	10	7	1 R. C., 1 Luth., 1 Dutch Reformed.
Minnesota	9	7	1 R. C., 1 Luth.
Iowa	22	20	2 Luth.
North Dakota	3	3	
South Dakota	6	6	
Nebraska	12	11	1 R. C. (professional dept. open)
Kansas	19	17	2 R. C.
Montana	3	3	
Wyoming	1	1	
Colorado	4	3	1 R. C.
Arizona	1	1	
Utah	2	2	
Nevada	1	1	
Idaho	1	1	
Washington	9	7	2 R. C.
Oregon	8	8	
California	12	9	3 R. C.
Indian Territory	2	2	
Oklahoma	1	1	
	217	182	22 R. C., 6 Luth., 1 Ger. Ev., 1 Dutch. Ref., 1 P. E., 1 Cong.

II *14 southern and 2 southern middle states*

STATES	Total no. cols	Coed.	Men only
Delaware	2	1	Delaware college. (The one coeducational college is for negroes.)
Maryland	11	4	4 R. C., St. John's, Maryland agric. college, Johns Hopkins.
District of Columbia.	6	3	3 R. C.
Virginia	10	4	2 M. E. So., Univ. of Virginia, Hampden-Sidney, Washington and Lee, William and Mary.
West Virginia	3	3	
North Carolina	15	10	1 R. C., 2 Presb., 1 Luth., 1 Bapt.
South Carolina	9	7	1 A. M. E., College of Charleston.
Georgia	11	6	2 Bapt., 1 A. M. E., 1 M. E. So., Univ. of Georgia.
Florida	6	5	1 R. C.
Kentucky	13	9	1 R. C., 1 Bapt., 1 Presb., Ogden college.
Tennessee	24	20	1 R. C., 2 Presb., 1 P. E. (Univ. of South.)
Alabama	9	7	2 R. C.
Mississippi	4	2	1 Bapt., 1 M. E. So.
Louisiana	9	3	2 R. C., 1 M. E. So., 1 Cong., Louisiana State univ., Tulane.
Texas	16	12	3 R. C., 1 Presb.
Arkansas	8	8	
Missouri	26	21	3 R. C., 1 Bapt., 1 Presb.
	182	125	21 R. C., 5 M. E. So., 6 Bapt., 7 Presb., 1 Luth., 2 A. M. E., 1 P. E., 1 Cong.

III *6 New England and 3 northern middle states*

STATES	Total no. cols	Coed.	Men only
Maine	4	2	1 Bapt. (Colby, limited coed.), Bowdoin
New Hampshire	2	....	1 R. C., 1 Cong. (Dartmouth)
Vermont	3	2	Norwich university
Massachusetts	9	2	2 R. C., 2 Cong. (Amherst), Harvard, Williams, Clark
Rhode Island	1	....	Brown
Connecticut	3	1	1 P. E. (Trinity), Yale
New York	23	5	8 R. C., 2 P. E. (Hobart), 1 Bapt. (Colgate), Polytechnic institute of Brooklyn, Hamilton, College of City of New York (boys' high school), Columbia, Union, Rochester, New York university
New Jersey	4	....	2 R. C., 1 Dutch Ref. (Rutgers), Princeton
Pennsylvania	32	17	4 R. C., 1 Luth., 1 Moravian, 1 Friends (Haverford), 1 Dutch Ref. (Franklin & Marshall), Pennsylvania military college, Philadelphia central high school (boys' high school), Lehigh university, University of Pennsylvania, 3 Presb. (Lafayette, Washington & Jefferson, Lincoln)
	81	29	17 R. C., 1 Luth., 3 P. E., 3 Cong., 3 Presb., 2 Bapt., 1 Friends, 2 Dutch Ref., 1 Moravian (The Univ. of Penna. admits women to many departments, but not to full undergraduate work leading to the bachelor's degree)

ford junior university, opened in 1891, and, in the middle west, Chicago university, opened in 1892. To show the differing attitude toward coeducation of the different sections of the United States, I have arranged the 480 coeducational colleges and separate colleges for men given in the U. S. education report for 1897–98 in a table on the opposite page. In matters like women's education, which are powerfully affected by prejudice and conservative opinion, we find not only a sharp cleavage in opinion and practice between the west and the east of the United States, but also distinct phases of differing opinion, corresponding in the main to the old geographical division of the states into New England, middle, southern and western.[1]

In the western states it will be observed there are, excluding Roman Catholic colleges and seminaries, out of 195 colleges 182 coeducational and only 13 colleges for men only. All of these except 3 are denominational ; 6 belong to the Lutheran, 1 to the Dutch Reformed, 1 to the German Evangelical, 1 to the Episcopalian, and 1 to the Congregationalist. The other 3 are, as we might expect, in the most eastern and the earliest settled of the western states; one in Ohio, Western reserve, which teaches women in a separate women's college; one in Indiana, Wabash college, one of the three most important colleges in Indiana; and one in Illinois, Illinois college. Roman Catholic institutions apart, in 14 states and all 3 territories every college for men is open to women (the one university of the territory of New Mexico, not included in the U. S. education report, is open to women). In the southern states and southern middle states there are, excluding Roman Catholic colleges and seminaries, out of 161, 125 coeducational and only 36 colleges for men only. Among these 36, however, are the most important educational institution in Maryland, the Johns Hopkins university; the most important in Georgia, the University of Georgia; in Louisiana the two most important, the Louisiana state university and Tulane university, and in Virginia the very important University of Virginia.[1] Roman Catholic institutions apart, all the colleges in the states of Alabama, Arkansas, Florida and West Virginia are coeducational. In New England and the northern middle states out of 64 colleges, excluding Roman Catholic colleges and seminaries, only 29, or less than half, are coeducational. The colleges for men only include (with the exception of Cornell) all the largest undergraduate colleges in this section — Harvard, Yale, Columbia, Princeton, Pennsylvania. Maine and Vermont are liberal to women, 2 colleges (3 if we count the limited coeducational college of Colby) in Maine and 3 in Vermont being coeducational, but the total number of students in college in these states is very small (in Maine only 843 men and 189 women; in Vermont only 301 men and 99 women). The leading colleges of New Hampshire, Rhode Island, Connecticut, New Jersey and Pennsylvania are closed, and in Massachusetts only 2 are open and 7 closed.[2]

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[1] In discussing coeducation I shall, therefore, disregard the divisions into north Atlantic, south Atlantic, north central, south central and western, employed by the U. S. census and the U. S. bureau of education. The New England, middle and southern states are all, of course, eastern, and, with the exception of Vermont, West Virginia, Kentucky, Tennessee and Missouri, are all seaboard states, Pennsylvania being counted as a seaboard state on account of its close river connection with the sea. It will be noted that the inland southern states are rather western than eastern in their characteristics. The northern middle states belong on the whole by their sympathies to New England, the southern middle to the southern states. Missouri, having been a slave state and settled largely by southerners, is still southern in feeling. The District of Columbia also may conveniently be counted with the southern states.

Of the four hundred and eighty colleges for men enumerated by the commissioner of education 336, or 70 per cent (or, excluding Catholic colleges, 80 per cent), admit women. It would be misleading, however, to count among American institutions for higher education, properly so-called, most of the coeducational colleges and separate colleges for men included in this list, and it would be equally misleading to compare the number of women studying in such colleges in the United States with the number of women engaged in higher studies in England, France and Germany.[3] In order to obtain a better idea of opportunities

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[1] Two of the three next largest colleges in Virginia — Richmond and Roanoke — admit women, but the advance in women's education in that state has been very recent. Until the establishment of the State normal school in 1883 there was not a scientific laboratory in the state accessible to women; in 1893 the Randolph-Macon Woman's college opened with several laboratories, see Prof. Celestia Parrish, Proceedings 2d Capon Springs conference for education in the south, 1899, p. 68. I am much indebted to the author of this paper for valuable data in regard to coeducation in the south.

[2] The Massachusetts institute of technology is classified by the U. S. ed. reps. among technical schools.

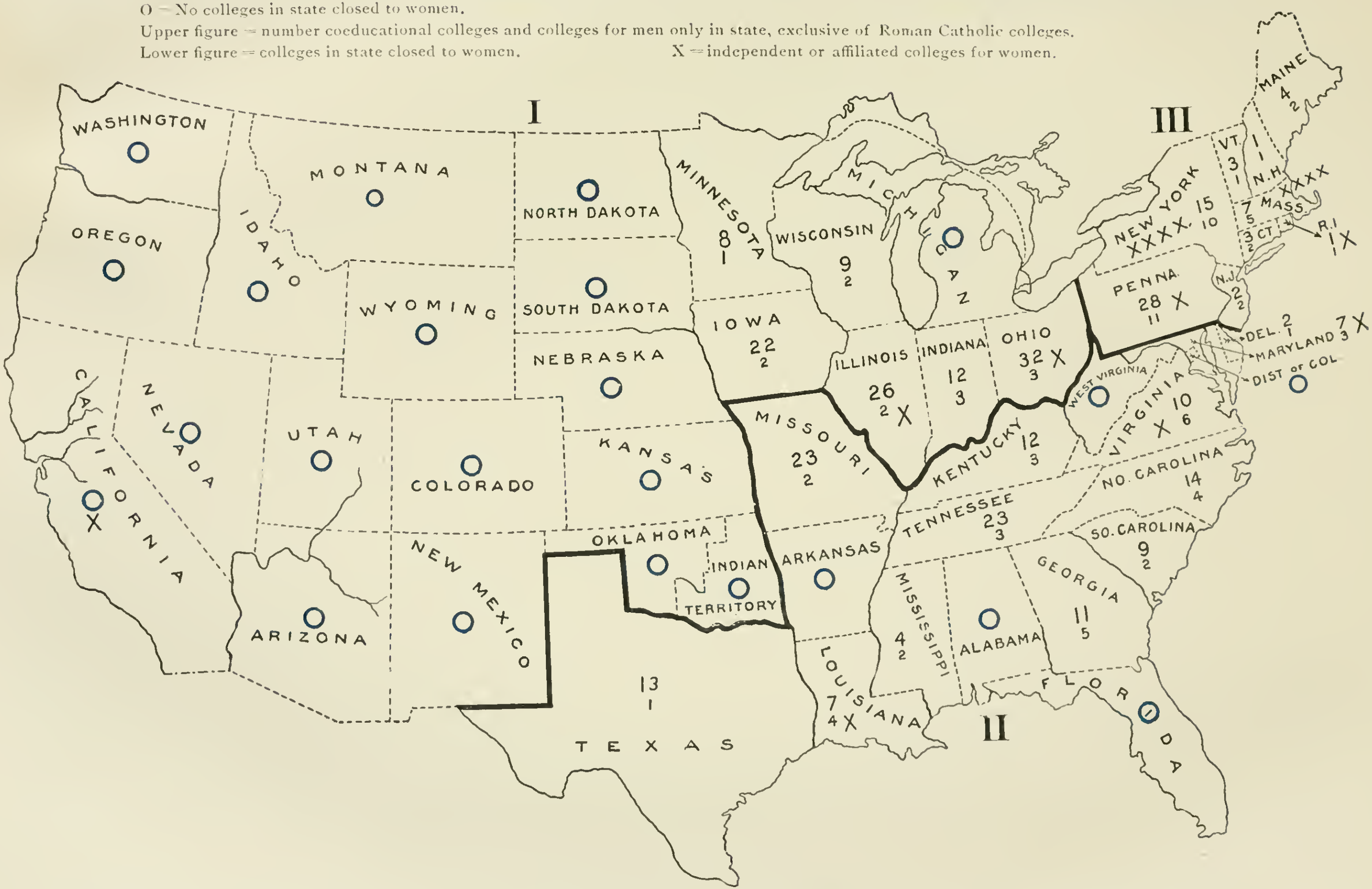
[3] The commissioner of education does not feel himself at liberty to discriminate among the colleges chartered by the different states, but it is well known that in most states the name of college, or preferably that of university, and the power to confer degrees are granted to any institution whatsoever without regard to endowment, scientific equipment, scholarly qualifications of the faculty or ade-

Attitude of different sections of the United States toward coeducation and separate education of men and women

O = No colleges in state closed to women.

Upper figure = number coeducational colleges and colleges for men only in state, exclusive of Roman Catholic colleges.

Lower figure = colleges in state closed to women. X = independent or affiliated colleges for women.



In this table are included all the colleges (except Roman Catholic colleges) given in the U. S. ed. rep. for 1897-98.

Section I = 20 western states and 4 territories.

Section II = 14 southern and 2 southern middle states and District of Columbia.

Section III = 6 New England states and 3 northern middle states.

for true collegiate work open to women at the present time in the United States I have selected from these four hundred and eighty colleges and from the numerous colleges for women classified elsewhere, a list of fifty-eight colleges properly so-called, employing for the purpose the four means of classification most likely to commend themselves to the impartial student of such things.[1] Of these

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quate preparation of the students. The majority of the so-called colleges and universities of the south and west are really secondary schools. In most of them not only are the greater part of the students really pupils in the preparatory or high school department, but most of the students in the collegiate departments are at graduation barely able to enter upon the sophomore or second year work of the best eastern colleges. Throughout this monograph I have used the word college in speaking of institutions for undergraduate education, except when quoting their official titles, and this whether the college in question is, or is not, included in a larger institution providing also three years of graduate instruction. The terms college and university are used in America without any definite understanding, even among colleges and universities themselves, as to how they shall be differentiated. Probably the most commonly accepted usage is to call an institution a university if it has attached to it various departments, or schools, without regard to the standing of these departments, the preparation of the students entering them, or the work done in them. In this sense all the state universities of the west are called universities because, although many of them are really high schools, they have attached to them schools of pharmacy, veterinary science, agriculture, and sometimes medicine or law. It is in this sense that many institutions for negroes are called universities, because they include various departments of industrial art as well as a high school department. Until very recently the requirements for admission to the departments of law, medicine, dentistry, etc., have been so low that it has been a positive disadvantage to have such schools attached to the college department, and when lately the graduates of Harvard college decided not to allow the graduates of its affiliated schools to vote with them for representatives on the board of trustees, they claimed with justice that the illiberal education of the majority of these graduates would tend to lower the standard of Harvard college. The use of the word university should be strictly limited to institutions offering at least three years of graduate instruction in one or more schools.

[1] In this list of fifty-eight colleges I have included: first, the twenty-four colleges (indicated in the list by "a") whose graduates are admitted to the Association of collegiate alumnæ; second, the twenty-three colleges (24 are included in the Federation, but Barnard has ceased to be a graduate school, see page 28) included in the Federation of graduate clubs (indicated by "b"); third, the fifty-two colleges (indicated by "c") included in the 1899–1900 edition of Minerva, the well-known handbook of colleges and universities of the world published each year by Truebner & Co.; and fourth, the colleges which, according to the U. S. education report for 1897–98, have at least $500,000 worth of productive funds (indicated by "d"), and also three hundred or more students (indicated by "e"). In the case of state universities the money they receive annually from national and state appropriations may reasonably be regarded as a sort of supplementary endowment; I have, therefore, included the state universities of Maine, Iowa and

fifty-eight colleges four are independent colleges for women and three women's colleges affiliated to colleges for men; of the remaining 51, 30, or 58.8 per cent, are coeducational, and a nearer examination makes a much more favorable showing for coeducation. Of the 21 colleges closed to women in their undergraduate departments five have affiliated to them a women's college through which women obtain some share in the undergraduate instruction given, the affiliated colleges in three cases being of

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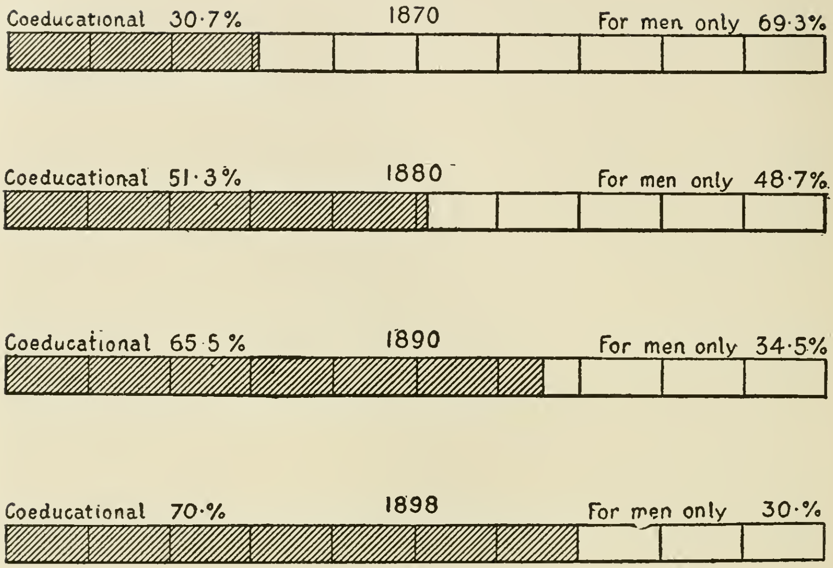
West Virginia, whose productive funds do not amount to $500,000. This list of fifty-eight colleges, arranged according to the different sections of the country, and as far as possible in the order of the numbers in their undergraduate departments, is as follows: *New England and 3 northern middle states:* Harvard (bcde), Yale (bcde), Cornell (abcde-coed.), Massachusetts institute of technology (acde-coed.), Smith (acde-woman's college), Princeton (bcde), Pennsylvania (bcde), Columbia (bcde), Brown (bcde), Wellesley (abce-woman's college), Vassar (acde-woman's college), Syracuse (acde-coed.), Dartmouth (cde), Boston (acde-coed.), Amherst (cde), Radcliffe (abce-affiliated), Williams (cde), Lehigh (cde), Maine (e-coed.), Wesleyan (acde-coed.), Vermont (c-coed.), Lafayette (c), Bryn Mawr (abcd-woman's college), New York University (cd), Barnard (a-affiliated), Hamilton (c), Colgate (cd), Clark (bcd-no undergrad. department). *Southern and 2 southern middle states:* Missouri (bcde-coed.), Texas (cde-coed.), Columbian (bce-coed.), West Virginia (e-coed.), Tulane (cd), Vanderbilt (bcd-coed.), Virginia (c), Johns Hopkins (bcd), Washington (St. Louis) (cd-coed.), Georgetown (c-Catholic), Catholic university (cd-no undergrad. department). *Western states:* Minnesota (abcde-coed.), Michigan (abcde-coed.), California (abcde-coed.), Wisconsin (abcde-coed.), Chicago (abcde-coed.), Leland Stanford (abcde-coed.), Nebraska (ace-coed.), Ohio state university (de-coed.), Indiana (cde-coed.), Illinois (ce-coed.), Kansas (ace-coed.), Ohio Wesleyan (cde-coed.), Iowa (e-coed.), Northwestern (acde-coed.), Oberlin (acde-coed.), Cincinnati (cd-coed.), Colorado (c-coed.), Western reserve (bcd), College for Women of western reserve (a-affiliated).

The only attempt hitherto made in America to discriminate between colleges of true college grade and others has been made by the Association of collegiate alumnæ. This association was organized in 1882 for the purpose of uniting women graduates of the foremost coeducational colleges and colleges for women only into an association for work connected with the higher education of women. In the early years of the association there was appointed a committee on admissions, and the admission of each successive college in the association has been carefully considered, both with regard to its entrance requirements, the training of its faculty and its curriculum. The Association of collegiate alumnæ concerns itself, of course, only with colleges admitting women, but there is no doubt that the fifteen coeducational colleges and seven colleges for women only admitted to the association would, in the estimation of every one familiar with the subject, rank among the first fifty-eight colleges of the United States.

The Federation of graduate clubs is an association of graduate students of those colleges whose graduate schools are important enough to entitle them to admission to the federation. The colleges in the Federation of graduate clubs are the only colleges in the United States that do true university work.

GROWTH OF COEDUCATION



I have prepared the diagram for 1870 from the U. S. ed. rep. for 1870, pp. 506–516, and the diagram for 1897–98 from the U. S. ed. rep., pp. 1848–1867, and from the table, opposite page 9 of this monograph. The diagrams for 1880 and 1890 are copied from the report for 1889–90, p. 764. For assistance in the preparation of this and other diagrams, and in working out the percentages given here, and elsewhere, in this monograph I am much indebted to Dr Isabel Maddison.

If Catholic colleges are excluded, as in the map opposite page 10, coeducational colleges formed, in 1898, 80 per cent, and colleges for men only 20 per cent of the whole number — a still more favorable result for coeducation.

enough importance to appear in the same list. Of these five, four (all but Harvard) admit women without restriction to their graduate instruction, and in addition Yale, the University of Pennsylvania and New York university make no distinction between men and women in graduate instruction. The Johns Hopkins university maintains a coeducational medical school. In this list then of fifty-eight, which includes all the most important colleges in the United States, there are, apart from the two Catholic colleges, only ten (Dartmouth, Amherst, Williams, Clark, Princeton, Lehigh, Lafayette, Hamilton, Colgate, Virginia, all situated on the Atlantic seaboard) to which women are not admitted in some departments. Princeton is the only one of the large university foundations that excludes women from any share whatsoever in its advantages. The diagram on the opposite page shows the steady progress of coeducation from from 1870 to 1898.[1]

All the arguments against the coeducation of the sexes in colleges have been met and answered by experience. It was feared at first that coeducation would lower the standard of scholarship on account of the supposed inferior quality of women's minds. The unanimous experience in coeducational colleges goes to show that the average standing of women is slightly higher than the average standing of men.[2] Many reasons for the greater success of women are given, such as absence of the distraction of athletic sports, greater diligence, higher moral standards, but the fact, however it may be explained, remains and is as gratifying as astonishing to those intersted in women's education. The question of health has also been finally disposed of; thousands of women have been working side by side with men in coeducational institutions for the past twenty-five years and undergoing exactly the same tests without a larger percentage of withdrawals on account of illness than men. The question of conduct has also been disposed of. None of the difficulties have arisen that were feared from the association of men and women of marriageable age. Looking at coeducation as a whole it is most surprising that it has worked so well.[1] Perhaps the only objection that may be made from men's point of view to coeducation in America is that it has succeeded only too well and that the proportion of women students is increasing too steadily. Not only is the number of coeducational colleges increasing but the number of women relatively to the number of men is increasing also. In 1890 there were studying in coeducational colleges 16,959 men and 7,929 women; or women, in other words, formed 31.9 per cent of the whole body of students. In 1898 there were 28,823 men and 16,284 women studying in coeducational colleges, women forming 36.1 per cent of the whole body of students. Between 1890 and 1898 men in coeducational colleges have increased 70.0 per cent, but women in coeducational colleges have increased 105.4 per cent.[2]

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[1] In only two instances, so far as I know, has coeducation once introduced been abandoned or restricted in any way. The private college of Adelbert of Western reserve, coeducational from 1873, opened a separate woman's college and excluded women in 1888. As the college department was very small and the state of Ohio in which the college was situated the most eastern in feeling of all western states, the change was seemingly to be attributed to a bid for students through undergraduate novelty. The Baptist college of Colby, in Maine, coeducational from 1871, has taught women in separate classes in required work since 1890. Women are not allowed to compete with men for college prizes or for membership in the students' society, which elects its members on account of scholarship. Complete separation, which was at first planned, has proved impracticable and from the beginning of the sophomore year women and men recite together in all elective work.

[2] In an investigation made several years ago in the University of Wisconsin, which has been open to women since 1874, it was found that the women ranked in scholarship very considerably beyond the men. In the University of Michigan, where women have been educated with men since 1870, President Angell has repeatedly laid stress on their excellent scholarship. When in 1893–94 a committee

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of the faculty of the University of Virginia asked the officers of a large number of coeducational colleges especially in regard to this point the testimony received was very remarkable. In England it should be noted that the question of the success of women in collegiate studies has been put beyond a doubt by the published class lists of the competitive honor examinations of Oxford and Cambridge, In the discussions in regard to granting women degrees at Cambridge, it was freely admitted that women's minds were "splendid for examination purposes."

[1] For a discussion of coeducation in schools and colleges in 1892, see U. S. education report for 1891–92, pp. 783–862.

[2] U. S. education report 1889–90, pp. 761, 1582–1599, and 1897–98, p. 1823; account is taken of students of true college grade only in the college proper. Throughout this monograph I have corrected the figures of the U. S. ed. reps. which are

There is every reason to suppose that this increase of women will continue. Already girls form 56.5 per cent of the pupils in all secondary schools and 13 per cent of the girls enrolled and only 10 per cent of the boys enrolled graduate from the public high schools. It is sometimes said that men students, as a rule, dislike the presence of women, and in especial that they are unwilling to compete for prizes against women for the very reason that the average standing of women is higher than their own. If there is any force in this statement, however, it would seem that men should increase less rapidly in coeducational colleges than in separate colleges for men. The reverse, however, is the case. During the eight years from 1890 to 1898 men have increased in coeducational colleges 70.0 per cent, but in separate colleges for men only 34.7 per cent.[1] This is all the more remarkable, because in the separate colleges for men are included the large undergraduate departments of Harvard, Yale, Princeton, Columbia and the University of Pennsylvania. It is women who have shown a preference for separate education; women have increased more rapidly in separate colleges for women than in coeducational colleges. It will be observed, however, that the separate colleges for women, like the separate colleges for men included in my list of fifty-eight, are in the east; it is in the east only that any preference for separate education is shown by either sex.[2]

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affected by the erroneous assumption that the undergraduate departments of Brown, Yale, Rochester, New York Univ., Pennsylvania, Tulane and Western Reserve are coeducational. In the University of Chicago women formed, in 1898, 54.5 per cent of all regular, and 70 per cent of all unclassified, students; in Boston university in the regular college course there were, in 1899, 299 women as against 192 men.

[1] In 1889–90 there were 19,245 men studying in 146 colleges for men only; in 1898–99 there were 25,915 men studying in 143 colleges for men only, an increase of only 34.7 per cent. (In enumerating students I have regarded the limited coeducational college of Colby as coeducational.) Women, however, have increased in women's colleges 138.4 per cent.

[2] The objection of men students in the east to coeducation seems to be mainly in the apprehension that the presence of women may interfere with the free social life which has become so prominent a feature of private colleges for men in the east. These colleges are, for the most part, situated either in small country towns,

Independent colleges for women — Since independent colleges for women of the same grade as those for men are peculiar to the United States, I shall treat them somewhat more fully.[1] The independent colleges here taken into account are the eleven colleges included in division A[2] of the U. S. education reports.[3] The independent

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or in the suburbs of a city, in communities which have grown up about the college, and their students live largely in college dormitories; the conditions, therefore, are exceedingly unlike those prevailing in non-residential colleges and also unlike those prevailing in the world at large. These exceptional conditions are a source of pleasure and, in many respects, of advantage to the student. Undoubtedly there is in coeducational colleges less unrestraint; young men undoubtedly care much for the impression that they make on young women of the same age, and there is more decorum and perhaps more diligence in classrooms where women are present. The objection to coeducation on the part of women students is, to some extent, the same; separate colleges for women in like manner are, as a rule, academic communities living according to regulations and customs all their own; women also feel themselves more unrestrained when they are studying in women's colleges. Then, too, coeducation in the east is still regarded as in some measure an experiment, to the success of which the conduct of each individual woman may, or may not, contribute, and the knowledge of this tends to increase the self-consciousness of student life.

[1] In the case of the colleges in groups I and II these statistics have been obtained through the kindness of the presidents of the colleges concerned; they are for the year 1900, except the numbers of instructors and students which are obtained from the catalogues for the year 1898–99; in enumerating the instructors, presidents, teachers of gymnastics, elocution, music and art have been omitted. Instructors away on leave of absence are not counted among instructors for the current year.

[2] Women's colleges were first classified in division A and division B in 1887. In these reports there appeared sporadically in division A Ingham university, at Leroy, New York, and Rutgers female college in New York city. Neither of these had any adequate endowment and neither ever obtained more than 35 students. Ingham university closed in 1893, Rutgers female college in 1895.

[3] The women's colleges, so called, included in division B of these reports, are in reality church and private enterprise schools, as a rule of the most superficial character, without endowment, or fixed curriculum, or any standard whatsoever of scholarship in teachers or pupils. What money there is to spend is for the most part used to provide teachers of music, drawing and other accomplishments, and the school instruction proper is shamefully inadequate. Few if any of these schools are able to teach the subjects required for entrance to a college properly so called; the really good girls' schools are, as a rule, excluded from this list by their honesty in not assuming the name of college. The U. S. education report for 1886–87 gives 152 of these colleges in division B, the report for 1897–98, 135. When it is said that separate colleges for women are decreasing, the statement is based on this list of colleges in division B, which are not really colleges at all; and when it is said that women students are not increasing so rapidly in separate colleges for women as in coeducational colleges, it is the students in these mis-

colleges for women fall readily into three groups: I. The so-called "four great colleges for women," Vassar, Smith, Wellesley, Bryn Mawr. It will be seen by referring to the classification on page 12 that these four colleges are included among the fifty-eight leading colleges of the United States; they are all included in the twenty-two colleges admitted to the Association of collegiate alumnæ; two of them, Bryn Mawr and Wellesley, are included in the twenty-three colleges belonging to the Federation of graduate clubs; they are all included in the list of fifty-two leading colleges of the United States given in the handbook of Minerva; they are all, except Bryn Mawr, included in the list given by the U. S. education report for 1897–98[1] of forty-six colleges in the United States having three hundred students and upward; three of them, Bryn Mawr, Smith and Vassar, are included among the fifty-two colleges of the United States possessing invested funds of $500,000 and upward, and two of them, Vassar and Bryn Mawr, are included among the twenty-nine colleges of the United States possessing funds of $1,000,000 and upward; three of them, Smith, Wellesley and Vassar, rank among the twenty-three largest undergraduate colleges in the United States; one of them, Smith, ranks as the tenth undergraduate college in the United States.

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called colleges who are referred to; for precisely the reverse is true of students in genuine colleges for women. It is happily true that since better college education has been obtainable, women have been refusing to attend the institutions included in class B. Between 1890 and 1898 women have increased only 4.9 per cent in the college departments of such institutions, whereas, in these same eight years, they have increased 138.4 per cent in women's colleges in division A. The value of statistics of women college students is often vitiated by the fact that women studying in institutions included in division B are counted among college students. Many of the colleges for men only and of the coeducational colleges included in the lists of the commissioner of education are very low in grade, but few of them are so scandalously inefficient as the majority of the girls' schools included in division B. I have, therefore, in my statistics taken no account whatever of women studying in institutions classified in division B.

[1] See pp. 1821, 1822, 1888, 1889. Bryn Mawr had not 300 undergraduate students in 1897–98, but the next year, 1898–99, passed the limit. I have excluded Western reserve as it is not coeducational in its undergraduate department, and, in 1899, had only 182 men in its men's college and 183 women in its women's college.

Vassar college, Poughkeepsie, New York[1]—Founder, Matthew Vassar; intention, "to found and equip an institution which should accomplish for young women what our colleges are accomplishing for young men;" opened, 1865; preparatory department dropped, 1888; presidents, three (men); 45 instructors (16 Ph. D.s.) — 35 women, 2 without first degree; 10 men; 584 undergrad. s., 11 grad. s., 24 special s.; productive funds, $1,050,000; a main building with lecture rooms, library and accommodation for 345 students, and two other residence halls accommodating 189 students; a science building; a lecture building; a museum with art, music and laboratory rooms; an observatory; a gymnasium; a plant house; a president's house; five professors' houses; total cost of buildings, $1,044,365; vols. in library, 30,000; laboratory equipment, $33,382; acres, 200; music and art depts., but technical work in neither counted toward bachelor's degree; tuition fee, $100; lowest charge, tuition, board and residence, including washing, $400.

Wellesley college, Wellesley, Massachusetts — Founder, Henry F. Durant; intention, "to found a college for the glory of God by the education and culture of women," opened 1875; preparatory department dropped, 1880; requirement from students of one hour daily domestic or clerical work dropped, 1896; presidents, five (all women); 69 instructors (13 Ph. D.s.) — 64 women, 16, apart from laboratory assistants without first degree; 5 men; 611 undergrad. s., 25 grad. s., 21 special s.; productive funds, $7,000;[1] a main building with library lecture rooms and accommodation for 250 students; a chemical laboratory; an observatory; a chapel; an art building; a music building; 8 halls of residence, accommodating 348 students (new hall being built); total cost of buildings, $1,106,500; vols. in library, 49,970; laboratory equipment, $50,000; acres, 410; music and art depts., but technical work in neither counted toward bachelor's degree; tuition fee, $175; lowest charge, tuition, board and residence (beds made, rooms dusted by students), $400.

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[1] To any one familiar with the circumstances it does not admit of discussion that in Vassar we have the legitimate parent of all future colleges for women which were to be founded in such rapid succession in the next period. It is true that in 1855 the Presbyterian synod opened Elmira college in Elmira, New York, but it had practically no endowment and scarcely any college students. Even before 1855 two famous female seminaries were founded which did much to create a standard for the education of girls. In 1821 Mrs. Emma Willard opened at Troy a seminary for girls, known as the Troy female seminary, still existing under the name of the Emma Willard school. In 1837 Mary Lyon opened in the beautiful valley of the Connecticut Mt. Holyoke seminary, where girls were educated so cheaply that it was almost a free school. This institution has had a great influence in the higher education of women; it became in 1893 Mt. Holyoke college. These seminaries are often claimed as the first women's colleges, but their curriculum of study proves conclusively that they had no thought whatever of giving women a collegiate education, whereas, the deliberations of the board of trustees whom Mr. Vassar associated with himself show clearly that it was expressly realized that here for the first time was being created a woman's college as distinct from the seminary or academy. In 1861 the movement for the higher education of women had scarcely begun. It was not until eight years later that the first of the women's colleges at Cambridge, England, opened.

Smith college, Northampton, Massachusetts — Founder, Sophia Smith; intention, to provide "means and facilities for education equal to those which are afforded in our colleges for young men;" opened, 1875; no preparatory department ever connected with the college; president, one (man); 49 instructors (13 Ph. D.s.) — 27 women, 9 without first degree; 12 men; 1,070 undergrad. s., 4 grad. s.; since 1891 no special s. admitted; productive funds, $900,000; two lecture buildings; a lecture and gymnastic building; a science building; a chemical laboratory; an observatory; a gymnasium; a plant house; a music building; an art building; 13 halls of residence accommodating 520 students; a president's house; total cost of buildings $786,000; vols. in library, 8,000 (70,000 vols. in library in Northampton also used by the students); laboratory equipment, $22,500; acres, 40; music and art depts., technical work in both, amounting to between one-sixth and one-seventh of the hours required for a degree, may be counted toward bachelor's degree; tuition fee, $100; lowest charge, tuition, board and residence (beds made, rooms dusted by students), $400.

Bryn Mawr college, Bryn Mawr, Pennsylvania — Founder, Joseph W. Taylor; intention, to provide "an institution of learning for the advanced education of women which should afford them all the advantages of a college education which are so freely offered to young men;" opened, 1885; no preparatory department ever connected with the college; presidents, two (one man, one woman); 38 instructors (29 Ph. D.s. 1 D. Sc.) — 15 women, 23 men; 269 undergrad. s., 61 grad. s., 9 hearers; productive funds, $1,000,000; a lecture and library building; a science building; a gymnasium; an infirmary; five halls of residence and two cottages, accommodating 323 students; a president's house; 6 professors' houses; total cost, $718,810; vols. in library, 32,000; laboratory equipment, $47,998; acres, 50; no music department; no technical instruction in art; tuition fee, $125; lowest charge, tuition, board and residence, $400.

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[1] The founder of Wellesley expected to leave the college a large endowment, but his fortune was dissipated in unfortunate investments. The splendid grounds and many halls of residence of the college constitute a form of endowment, otherwise its lack of productive funds would have excluded it from class I.

II. The women's colleges not included in the list of the fifty-eight most important colleges in the United States given on page 12, but of exceedingly good academic standing as compared with the greater number of the separate colleges for men and the coeducational colleges included in the four hundred and eighty enumerated by the commissioner of education.

Mt. Holyoke college, South Hadley, Massachusetts—Founder, Mary Lyon; seminary opened, 1837; chartered as seminary and college, 1888; seminary department dropped and true college organized, 1893; presidents, two (both women); 37 instructors (7 Ph. D.s.)—all women; 5, apart from laboratory assistants, without first degree; 426 undergrad. s., 3 grad. s., 9 special s., 3 music s.; productive funds, $300,000; a lecture building; a science building; a museum and art gallery; a library; a gymnasium; a rink; an observatory; an infirmary; a plant house; 9 residence halls accommodating 478 students; total cost of buildings, $625,000; vols. in library, 17,700; laboratory equipment, $33,000; acres, 160; music and art depts., technical work in both, amount limited by faculty, may be counted towards bachelor's degree; tuition fee, $100; lowest charge, tuition, board and residence (beds made, rooms dusted, by students, and in addition one-half hour of domestic work required), $250.

Woman's college of Baltimore, city of Baltimore, Maryland—Founded and controlled by Methodist Episcopal church; opened, 1888; preparatory department dropped, 1893; presidents, two (men); 21 instructors (10 Ph. D.s.)—11 women, 1 without first degree; 10 men, 1 without first degree; 259 undergrad. s.; 0 grad. s.; 15 special s.; productive funds, $334,994; a lecture building and three houses adapted for lecture purposes; a gymnasium; a biological laboratory; 3 residence halls holding 230; total cost of buildings, $505,703; vols. in library, 7,800; laboratory equipment, $47,000; acres (in city), 7; music and art depts., but technical work in neither counted towards bachelor's degree; tuition fee, $125; lowest charge, tuition, board and residence (beds made, rooms dusted by students), $375.

Wells college, Aurora, New York — Founders, Henry Wells and Edwin B. Morgan; seminary opened, 1868; chartered as college, 1870; preparatory dept. dropped, 1896; presidents, two (men); 13 instructors (4 Ph. D.s.) — 10 women, 3 without first degree; 3 men; 59 undergrad. s.; 0 grad. s.; 27 special s.; 4 music s.; productive funds, $200,000; a main building with lecture rooms and accommodations for 100 students; a science and music building; a president's house; total cost of buildings, $195,000; vols. in library, 7,300; laboratory equipment, $20,200; acres, 200; music and art depts., technical work in neither counted towards bachelor's degree; tuition fee, $100; lowest charge, tuition, board and residence (beds made by students), $400.

III. Elmira college, the Randolph-Macon Woman's college, Rockford college and Mills college are here relegated to a third group because of certain common characteristics. Their endowment is wholly inadequate, averaging considerably less than $50,000 apiece, reaching $100,000 only in the case of the Randolph-Macon Woman's college. In each of them a disproportionate number of students is studying in the music or art department; special students form too large a proportion of the whole number of students; the number of professors is too small to permit college classes to be conducted by specialists; the college classes are too small; true college training cannot be obtained in very small classes, and moreover, in view of the increasing number of women now going to college, when a college for women does not grow steadily it is reasonable to assume that there must be some good reason for its lack of growth.

Elmira college, situated at Elmira, New York, has, apart from the president, 10 academic instructors (7 women, 2 without first degree; 3 men); 5 teachers of music, 2 of art. There are studying in the college 70 regular college students, 17 specials and 61 special students in music.

The Randolph-Macon Woman's college, situated at Lynchburg, Virginia, has, apart from the president, 12 academic instructors (2 Ph. D.s.) — 7 women, 2 without first degree; 5 men; 9 instructors in music. Of the 226 students,[1] 55 are regular college students; 44 registered for degree but spending one-fifth of time in music or preparatory work; 16 special students; 6 students of art; 49 preparatory students; 46 students of music.

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[1] The numbers of students are for the year 1899-1900.

Rockford college, Rockford, Illinois — Opened as seminary, 1849; chartered as college, 1892; 13 academic instructors (2 Ph. D.s.) — all women, 3 without first degree; 4 teachers of music, 1 of art; 35 college s.; 7 special s.; 70 s. in music only.

Mills college, California — Opened as seminary, 1871; chartered as college, 1885; 11 instructors (9 women, 3 without first degree; 2 men); 8 teachers of music; 22 college s.; 135 pupils in preparatory department.

In addition to the existing colleges belonging to these groups, a separate college for women, Trinity, meant to be of true college grade, will soon be opened in Washington under the control of the Roman Catholic church.

It is often assumed by the adversaries of coeducation that independent colleges for women may be trusted to introduce a course of study modified especially for women, but the experience, both of coeducational colleges that have devised women's courses and of women's colleges, demonstrates conclusively that women themselves refuse to regard as satisfactory any modification whatsoever of the usual academic course. At the opening of Vassar college itself it is clear that the trustees and faculty made an honest attempt to discover and introduce certain modifications in the system of intellectual training then in operation in the best colleges for men. They planned from the start to give much more time to accomplishments — music, drawing and painting — than was given in men's colleges, and the example of Vassar in this respect was followed ten years later by Wellesley and Smith. These accomplishments have gradually fallen out of the course of women's colleges; neither Vassar nor Wellesley allows time spent in them to be counted toward the bachelor's degree. Smith alone of the colleges of group I still permits nearly one-sixth of the whole college course to be devoted to them. Bryn Mawr, which opened ten years later than Smith or Wellesley, from the beginning found it possible to exclude them from its course.

In like manner Vassar, Smith and Wellesley in the beginning found it necessary to admit special students — students, that is to say, interested in special subjects, but without sufficient general training to be able to matriculate as college students; but their admission has been recognized as disadvantageous, and has gradually been restricted. In 1870 special students, as distinguished from preparatory students, formed 19.6 per cent of the whole number of the students of Vassar; in 1899 they formed only 3.9 per cent, and only 3.3 per cent of the whole number of Wellesley students. Smith since 1891 has declined to admit them at all, and Bryn Mawr never admitted them.[1]

Again, Wellesley and Vassar in the beginning organized preparatory departments with pupils living in the same halls as the college students and taught in great part by the same teachers. The presence of these pupils tended to turn the colleges into boarding schools, and the steady and rapid development of Vassar as a true college began only after the closing of its preparatory department in 1888; until this time the number of students in the college proper had been almost stationary; Wellesley closed its preparatory department in 1880; Smith never organized one; Bryn Mawr never organized one; Mt. Holyoke, the Woman's college of Baltimore, and Wells college have all closed their preparatory departments within the last seven years.[2]

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[1] To the women's colleges of group III they are admitted still in large numbers, and they still form 35.1 per cent of all the undergraduate students in the affiliated college of Radcliffe, and 35.7 per cent of all the undergraduate students in the affiliated college of Barnard; in part, perhaps, because these colleges are largely dependent upon their tuition fees, and in part too, no doubt, because the presence of special students is less disadvantageous where there is no dormitory life.

[2] Colleges for women draw their students from private schools to a much greater extent than do coeducational colleges; and it was the very great inefficiency of these schools that induced the earlier colleges for women to organize preparatory departments of their own. The entrance examinations of the women's colleges are the only influence for good that has ever been brought to bear upon the feeble teaching of these schools. In 1874, before the numbers of women wishing to prepare for college were great enough to influence the private schools, a plan for raising their standard was devised by the Woman's education association of Boston, at whose request Harvard university for 7 years con-

It seems to have been at first supposed that the same standards of scholarship need not be applied in the choice of instructors to teach women as in that of instructors to teach men, that women were fittest to teach women, and that the personal character and influence of the woman instructor in some mysterious way supplied the deficiency on her part of academic training. For a long time not even an ordinary undergraduate education was required of her, and there are still teaching in women's colleges too many women without even a first degree. But it has been found on the whole that systematic mental training is best imparted by those who have themselves received it; the numbers of well-trained women are increasing; and the prejudice against the appointment of men where men are better qualified has almost disappeared.[1]

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ducted a series of examinations modeled on the Oxford and Cambridge higher local examinations which have been such an efficient agency in England. Committees of women were organized in different cities, and an attempt was made to induce girls' schools to send up candidates for these examinations. In 7 years, however, only 106 candidates offered themselves for the preliminary examination, and only 36 received a complete certificate. In 1881 the entrance examinations of Harvard college were substituted for these special women's examinations, in the hope that the interest in reaching the standard set by Harvard for its entering class of men might add to the number of candidates; but even after this change was made comparatively few candidates took the examinations, and in 1896 the effort was discontinued; the Harvard examinations have been used from that time onward simply as the ordinary entrance examinations of Radcliffe college. In Great Britain the Cambridge higher local examinations are taken annually by about 900 women. There was needed some such pressure as is brought to bear by pupils determined to go to college to induce private schools to add college graduates to their staff of teachers. The requirements for admission to Bryn Mawr college have to my personal knowledge been a most important factor in introducing college-bred women as teachers into all the more important private girls' schools of Philadelphia and in many private schools elsewhere; and every college for women drawing students from private schools has the same experience. On the other hand, every relaxation in the requirements for admission, such as the practice of admitting on certificate adopted by Vassar, Wellesley and Smith, tends to deprive girls' schools of a much needed stimulus. Radcliffe and Barnard, like Bryn Mawr, insist upon examination for admission and decline to accept certificates.

[1] Until Bryn Mawr opened in 1885 with a large staff of young unmarried men, it had been regarded as almost out of the question to appoint unmarried men in a women's college; now they are teaching in all colleges for women. The same instructors pass from colleges for men to colleges for women and from colleges for women to colleges for men, employing in each the same methods of instruc-

It has been recognized that the work done in women's colleges is most satisfactory to women when it is the same in quality and quantity as the work done in colleges for men, and it has been recognized also that they need the same time for its performance. Domestic work, therefore, which by the founder of Wellesley was regarded as a necessary part of women's education, is at present, I believe, required nowhere except on the perfectly plain ground of economy. The hour of domestic service originally required of every student in Wellesley was abandoned in 1896; a half-hour is still required at Mt. Holyoke, but tuition, board and residence are less expensive there. The time given to domestic work is obviously so much time taken from academic work.

In the matter of discipline the tendency has been toward ever-diminishing supervision by the college authorities. Vassar and Wellesley began with the strict regulations of a boarding school; it was regarded as impossible that young women living away from home should be in any measure trusted with the control of their own actions. Smith from the first allowed more liberty, in part because many of her students lived in boarding houses outside the college. In all three colleges the restrictions laid upon the students have been gradually lessened, and at Vassar there is at present a well-developed system of what is known as "limited self-government," according to which many matters of discipline are intrusted to the whole body of students. Bryn Mawr was organized with a system of self-government by the students perhaps more far-reaching than was then in operation in any of the colleges for men; the necessary rules are made by the Students' association, which includes all undergraduate and graduate students, and enforced by an executive committee of students who in the case of a serious offense may recommend the suspension or expulsion

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tion. Some years since one of the professors at Smith college received at the same time offers of a post at the Johns Hopkins, at Columbia, and at Bryn Mawr; and among the professors the most successful in their teaching at Princeton, Chicago and Columbia are men whose whole experience had been gained in teaching women at Bryn Mawr.

of the offender, and whose recommendation, when sustained by the whole association, is always accepted by the college. The perfect success of the system has shown that there is no risk in relying to the fullest extent on the discretion of a body of women students.

Affiliated colleges[1]—There are five[2] affiliated colleges in the United States — Radcliffe college, Barnard college, the Women's college of Brown university, the College for Women of Western reserve university, and the H. Sophie Newcomb memorial college for women of Tulane university.[3] The affiliated college in America is modeled on the English women's colleges of Oxford and Cambridge, with such modifications as are made necessary by the wholly different constitution of English and American universities. These modifications, however, it must in fairness be explained, are so essential as to make of it a wholly different institution.[4]

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[1] The following data have been furnished me by the courtesy of the presidents or deans of the colleges concerned, except the data of the H. Sophie Newcomb memorial college, for which I am indebted to Professor Evelyn Ordway. These data are for the year 1900; the numbers of instructors and students have been obtained from the catalogues for 1898–99.

[2] In one instance only — that of Evelyn college in New Jersey — has an affiliated college, once established, been compelled to close its doors. Evelyn, however, partook of the nature of a private enterprise school, and was begun on an unacademic basis in 1887. A certain number of Princeton professors consented to serve on the board of trustees and give instruction there, but it was, in reality, a young ladies' finishing school with a few students (in 1891, 22; in 1894, 18; in 1897, 14) pursuing collegiate courses. Music and accomplishments were made much of, and in 1897 the college came to a well-merited end.

[3] Radcliffe and Barnard are the only two of the affiliated colleges that appear in the U. S. education reports in division A of women's colleges. The students of the other three are reported under Brown, Western reserve and Tulane respectively, thus giving these colleges a false air of being coeducational in their undergraduate departments. The endowment and equipment of these three affiliated colleges, although entirely independent of the colleges to which they are affiliated, are given nowhere separately.

[4] It is difficult for those interested in women's education in England to understand the existence in America of independent colleges for women, and if American education were organized like English education they would, indeed, have no reason to exist. In an English university, consisting, as it does, of many separate colleges, whose students live in their separate halls of residence, are taught by their own teachers, hear in common with the students of other colleges the lectures offered by the central university organization, and compete against each other in honor examinations conducted by a common board of university examiners, the colleges for women — at Cambridge, Girton and Newn-

Radcliffe college, Cambridge, Massachusetts[1] — Affiliated to Harvard university, union dissoluble after due notice; opened by the Society for the collegiate instruction of women in 1879; incorporated as Radcliffe college with power to confer degrees in 1894; board of trustees and financial management separate from Harvard; B. A. and M. A. degrees conferred by Radcliffe; Ph. D. degree as yet conferred neither by Radcliffe nor Harvard; degrees, instructors, and academic board of control, subject to approval of Harvard; no instructors not instructors at Harvard also; undergraduate instruction at Harvard repeated at Radcliffe at discretion

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ham, and at Oxford, Somerville hall, Lady Margaret hall and St. Hugh's hall — are organized in precisely the same way as colleges for men. They may, or may not, be as well equipped as the best men's colleges, but the difference is a matter of endowment, not of university organization; there are differences also between the various colleges for men. Examinations, again, play a far more important part in English than in American education. There are in Great Britain only a few examining and degree-giving bodies, for whose examinations all the various colleges prepare their students. The degrees mean that certain examinations have been passed, and have a definite and universally acknowledged value. A degree given by an American college means that the person receiving it has lived for some time in a community of a certain kind, enjoying certain opportunities of which he has conscientiously availed himself. For this reason no one of the 491 colleges of the United States enumerated in the U. S. education report for 1897–98 bestows its degree in recognition of examinations passed in any other college. For this reason Harvard college has had logic on its side in declining to confer upon the students completing their undergraduate course in Radcliffe college the Harvard B. A. They have not lived in the same community, nor yet had all the opportunities of the Harvard student. The certificate received by the student of Girton or Newnham represents exactly the same thing as the Cambridge degree; the B. A. of Radcliffe does not represent the same thing as the Harvard B. A. What is represented by the degrees of different colleges in the United States may, or may not, be equal, but never is the same. Nevertheless Columbia, Brown, Tulane and Western reserve confer their degrees upon the women graduates of their affiliated colleges for women.

[1] The first American affiliated college was the so-called Harvard annex, which was brought into existence by the devoted efforts of a small number of influential professors of Harvard college, who voluntarily formed themselves into a "Society for the collegiate instruction of women," and repeated each week to classes of women the lectures and class work they gave to men in Harvard college. The idea first occurred to Mr. Arthur Gilman in 1878. Girton college, Cambridge, England, after which the annex was modeled, had then been in successful operation for nine years. Mrs. Louis Agassiz, the widow of the famous naturalist, agreed to become the official head of the undertaking, and she associated with herself other influential Boston and Cambridge women. Mr. Arthur Gilman became the secretary of the society. The president of Harvard college declared that, so far as the university was concerned, the professors were free to teach women in their leisure hours if they chose. The annex was opened for students in 1879 in a rented house near the Harvard campus with 25 students.

of instructors; since 1893 women admitted to graduate and semi-graduate courses given in Harvard, at discretion of instructor, subject to approval of the Harvard faculty; in 1899, 64 such courses open to Radcliffe students; 238 undergrad. s.; 54 grad. s.; 129 special s.; productive funds about $430,000; a lecture and library building; a gymnasium; 4 temporary buildings used for lectures and laboratories; a students' club house; no residence hall, but one about to be built; total cost of buildings about $110,000; vols. in library, 14,138; access to Harvard library and collections; scientific laboratories of Harvard not available: cost of laboratory equipment not ascertainable, inadequate; acres (in city) about 3; tuition fee, $200.

Barnard college, New York city — Affiliated to Columbia university, union dissoluble by either party after year's notice; opened in 1889; status very much that of Radcliffe until January, 1900, when women graduates were admitted without restriction to the graduate school of Columbia, registering in Columbia, not as heretofore in Barnard, and Barnard was incorporated as an undergraduate women's college of the university, its dean voting in the university council, and the president of Columbia becoming its president and a member of its board of trustees; Barnard's faculty consists of the president of the university, the dean of Barnard, and instructors, either men or women, nominated by the dean, approved by Barnard trustees and president of Columbia and appointed by Columbia; courses for A. B. degree and all examinations determined and conducted by Barnard faculty, subject to provisions of university council for maintaining integrity of degree; all degrees conferred by Columbia; after July 1, 1904, no undergraduate courses in Columbia, except in the Teachers' college, will be open to Barnard seniors as heretofore, complete undergraduate work will be given separately at Barnard, not necessarily by same instructors; 131 undergrad. s.; 76 grad. s.; 73 special s.; productive funds, $150,000; one large building containing lecture rooms, laboratories and accommodation for 65 students, cost, $525,000; vols. in reading room, 1,000; access to Columbia, library; scientific laboratories of Columbia not available; cost of laboratory equipment $9,250; land (in city), 200x160 feet; tuition fee, $150.

Women's college of Brown university, Providence, Rhode Island — Affiliated to Brown university; university degrees and examinations opened to women, and their undergraduate instruction informally begun in 1892; women's college established by

Brown university as a regular department of the university in 1897 under control of the university trustees; advisory council of five women appointed by trustees to advise with president of university and dean of women's college; funds of the women's college held and administered separately by trustees; all degrees conferred by Brown; women and men examined together; required courses given in Brown repeated to women by same instructors; all instruction given by Brown instructors; all graduate work in Brown open to graduate women without restriction since 1892; women recite with men in many of the smaller elective undergraduate courses; 140 undergrad. s.; 38 grad. s.; 25 special s.; a lecture hall costing $38,000; no residence hall; access to Brown library; scientific laboratories of Brown not available; very inadequate laboratory equipment; no productive funds; tuition fee, $105.

College for women of Western reserve university, Cleveland, Ohio — Affiliated to Western reserve university; established by Western reserve in 1888; degrees conferred by Western reserve; graduate department of Western reserve open to graduate women without restriction; separate financial management; separate faculty 21 (9 Ph. D.s.) — 14 men, 7 women; 165 undergrad. s.; 18 special s.; productive funds, about $250,000; a lecture hall, a residence hall accommodating 40 students; total cost of buildings, including land, about $200,000; 3 laboratories of men's college available at certain times; access to Western reserve library; tuition, $85; lowest charge, board, room rent and tuition (beds made by students), $335.

H. Sophie Newcomb memorial college for women, New Orleans, Louisiana — Affiliated with Tulane university, but situated in another part of the city; founder, Mrs. Josephine Louise Newcomb; opened 1886; under control of board of trustees of Tulane; graduate department of Tulane university open to graduate women without restriction since 1890; separate financial management; separate president and faculty; 8 instructors (1 Ph. D.) — 5 women, 2 without first degrees; 3 men, 1 without first degree; 51 undergrad. s.; 34 special s. (10 in gymnastics); 54 s. of art; 80 pupils in preparatory dept.; art dept.; productive funds, $400,000; a lecture building, a chapel, an art building, a pottery building, two residence halls accommodating 75 students, a high school building; total cost of buildings about $225,000; vols. in library about 6,000; tuition, $100; lowest charge, board, room rent (two in one room, beds made by students) and tuition, $280.

In the smaller group, which includes the College for women of Western reserve university and the H. Sophie Newcomb memorial college, the affiliated college tends to become an entirely separate institution; in its instructors and instruction it differs widely from the institution to which it is affiliated; it is, in fact, a different college called into existence by the same authorities. In the larger group, which includes the Women's college of Brown, Barnard and Radcliffe, the affiliated college tends to blend itself with the institution to which it is affiliated in a new coeducational institution. The ideal in view is a complete identity of instructors and instruction and the law of economy of force forbids attaining this ideal by the duplication of the whole instruction given. It is less wasteful to double the number of hearers in any lecture room than to repeat the lecture. It is in the Women's college of Brown that we find the closest affiliation and, accordingly, the nearest approach to coeducation. The corporation of Brown furnished the land on which Pembroke hall, the academic building of the Women's college, was erected, and accepted the gift of the building when it was completed; Brown has from first to last openly assumed responsibility for its affiliated college in fact as well as name. In the graduate department of Brown there is, as has been said, unrestricted coeducation; and in many of the smaller undergraduate elective courses women are reciting with men. In the graduate department of Columbia there is now unrestricted coeducation. It is in the case of Radcliffe that there is least approach to coeducation. What has made possible the policy pursued at Radcliffe has been the self-sacrificing zeal of many eminent Harvard professors, willing at any cost of inconvenience to give to women what could seemingly on no other terms be given; but the sacrifice is too great, and in the modern world too unnecessary; it is at present almost everywhere possible for the professor interested in educating women to lighten his own labors by admitting them to the same classes with men. Only the affiliated colleges of the second group present in their internal organization a type essentially different from that of the independent college — a type intermediate between the independent and the coeducational.

PROFESSIONAL EDUCATION

Graduate instruction in the faculty of philosophy — True university instruction begins after the completion of the college course, and very little such instruction is given by any American university[1] except in the so-called graduate schools belonging to the twenty-three colleges in the United States included in the Federation of graduate clubs.[2] In the following 16 of these 23 graduate schools women are admitted without restriction and compete with men for many of the scholarships and honors: Yale, Brown, Cornell, Columbia, New York university, Pennsylvania, Columbian, Vanderbilt, Missouri, Western reserve, Chicago, Michigan, Wisconsin, Minnesota, California, Leland Stanford Junior; Bryn Mawr and Wellesley admit women only; Harvard admits them to certain courses through the mediation of Radcliffe. There remain, apart from the Catholic university, only 3 graduate schools excluding women: Clark, Princeton and the Johns Hopkins university; and in the Johns Hopkins they are admitted to at least one university department — that of the medical school.[3]

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[1] The medical school of the Johns Hopkins university is a true university school, admitting only holders of the bachelor's degree; the law school of Harvard university is practically a university school, although seniors in Harvard college are received as students.

[2] Out of the 58 most important American colleges enumerated on page 12 only 23, it will be remembered, appear in the lists of the Federation of graduate clubs. Unfortunately it must not be inferred that all these 23 colleges are doing true professional work and offering graduate students a three years' course leading to the degree of Ph. D. In some of them there are provided only courses leading to the degree of A. M., which, like the degree of A. B., indicating general culture. The affiliated college of Radcliffe appears in the list of graduate clubs, although it can scarcely be said to exist independently as a separate graduate school, being virtually the portal by which women are admitted to a limited amount of graduate work at Harvard. In 1899–1900 only 12 graduate lecture courses and 3 research courses were repeated at Radcliffe.

[3] The graduate courses of Clark (which has no undergraduate department) are few in number and attended by only 48 men; the exclusion of women is, therefore, very surprising especially as the principal subjects of instruction, pedagogy,

In 1898–99 there were studying in these 23 graduate schools 1,021 women, forming 26.8 per cent of the whole number of graduate students.[1] In 1889–90 the U. S. education report estimates that there were 271 women graduate students out of a total of 2,041 graduate students, or women formed 13.27 per cent of all graduate students; in 1897–98 the report for that year estimates that there were 1,398 women out of a total of 5,816 graduate students, or women formed 24.04 per cent of all students — a remarkable increase as compared to the increase of men graduate students in 8 years.

Graduate fellowships and scholarships — In 1899 there were open to women 319 scholarships varying in value from $100 to $400 (50 of these exclusively for women) and 2 foreign scholarships (1 exclusively for women); 81 residence fellowships of the value of $400 or over (18 of these exclusively for women); 24 foreign fellowships of the value of $500 and upwards (12 of these exclusively for women).[2]

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experimental psychology and the like, are of peculiar interest to women. The exclusion of women from all but the medical department of the Johns Hopkins university is really of serious import, because the Johns Hopkins university, judged not by numbers but by scholarly research and publication, the number of Ph. D. degrees conferred, and the important college and university positions filled by its graduates, has long been, and perhaps is still, the most important graduate school in the United States. Its attitude toward women is to be accounted for in part by its location, and in part by the fact that its management is in the hands of a self-perpetuating board of twelve trustees appointed originally by the founder, and without exception Baltimoreans, so that no pressure can be brought to bear upon the corporation from more progressive sections of the country.

[1] These figures are taken from the Graduate handbook for 1899, published by the Federation of graduate clubs. Of these the greatest number studying in any one institution in the west was to be found in the University of Chicago, and the next greatest in the University of California; the greatest number studying in any one institution in the east was to be found at Barnard-Columbia, and the next greatest at Bryn Mawr. There were studying in the graduate departments of the University of Chicago (including summer students) 276 women; in the University of California, 90; in Barnard-Columbia, 82; in Bryn Mawr, 61; in Radcliffe-Harvard, 58; in Yale, 42; in Cornell, 36; in the University of Pennsylvania, 34. The position of Bryn Mawr in this series seems to show conclusively that an independent woman's college maintaining a sufficiently high standard of instruction may compete successfully for students with much larger and older coeducational foundations.

[2] See Fellowships and graduate scholarships, published by the Association of collegiate alumnæ, Richmond Hill, N. Y., III Series, No. 2, July, 1899.

Comparative table of the progress of coeducation and increase of women students from 1890 to 1898 and 1899 in theology, law, medicine, dentistry, pharmacy, schools of technology and agriculture.

	1890 [1]			1899 [2]			1890 [1]		1898 [3]	
	Number of colleges for men only	Number of coed. colleges	Percentage of coed. colleges	Number of colleges for men only	Number of coed. colleges	Percentage of coed. colleges	Number of women students	Percentage women of all students	Number of women students	Percentage women of all students
Theology	No women reported			97	68	41.2	No women reported		198	2.4
Law	No women reported			22	64	74.4	No women reported		147	1.3
Medicine (regular and irregular)[4]	67	46	40.7	69	80	53.7	854	5.5	1 397	6.0
Dentistry	14	13	48.1	12	44	78.6	53	2.0	162	2.4
Pharmacy	13	16	55.2	4	48	92.3	60	2.1	174	4.7
Schools of technology and agriculture endowed with national land grant[5]	14	12	46.2	16	48	75.	774	12.5	2 281	16.1

[1] The numbers of coeducational and other professional schools are estimated from the U. S. ed. rep. for 1889–90.

[2] Through the kindness of Mr. James Russell Parsons, Jr., author of the monograph on professional education in the United States, published as one of this series, I am able to insert the figures for 1899, see p. 21. By personal inquiry I have been able to add four to his list of coeducational schools of theology.

[3] The number of professional students for the year 1898 is taken from the U. S. ed. rep. for 1897–98.

[4] For the sake of clearness I have omitted from the above table the 7 separate medical schools for women, although I have counted their students in the total number of women medical students, both in 1890 and 1898. In 1890 there were studying in the 6 regular medical women's colleges 425 women, as against 648 women in coeducational regular medical colleges; in 1898 there were studying in them 411 women, as against 1045 in coeducational colleges, a decrease of 3.3 per cent, whereas women students in coeducational medical colleges have increased 16.3 per cent. I limit the comparison to regular medical schools because women have increased relatively more rapidly in irregular medical schools and there is only one separate irregular medical school for women. It is sometimes said that women prefer medical sects because the proportion of women studying in irregular schools is relatively greater than the proportion studying in regular schools; but in 1898, 85.7 per cent of the irregular schools were coeducational and only 46.6 per cent of regular schools, a fact which undoubtedly increases the proportion of students studying in irregular schools.

[5] The statistics for the schools of technology and agriculture are taken from the U. S. education report for 1889–90, pp. 1053–1054, and from the report for 1897–98, pp. 1985–1988. I have excluded schools of technology not endowed with the national land grant. In 1890 there were 27 of such schools (5 of them coeducational); in 1898 their number had fallen to 17 (3 of them coeducational). Very few women are studying in these schools; in 1898 women formed only 0.2 per cent of all students studying in them.

Theology, law, medicine, dentistry, pharmacy, veterinary science, schools of technology and agriculture—Ten years ago there were very few women studying in any of these schools. The wonderful increase both in facilities for professional study and in the number of women students during the last eight years may be seen by referring to the comparative tive table on the opposite page.

It is evident to the impartial observer that coeducation is to be the method in professional schools. Except in medicine, where women were at first excluded from coeducational study by the strongest prejudice that has ever been conquered in any movement, no important separate professional schools, indeed none whatever, except one unimportant school of pharmacy have been founded for women only.[1] It is evident also that the number of women entering upon professional study is increasing rapidly. If we compare the relative increase of men and of women from 1890 to 1898 we obtain the following percentages: increase of students in medicine, men, 51.1 per cent, women, 64.2 per cent; in dentistry, men, 150.2 per cent, women, 205.7 per cent; in pharmacy, men, 25.9 per cent, women, 190 per cent; in technology and agriculture, men, 119.3 per cent, women, 194.7 per cent.

GENERAL CONSIDERATIONS

There are many questions connected with the college education of American women which possess great interest for the student of social science.

Number of college women—In the year 1897–98[2] there were studying in the undergraduate and graduate departments of coeducational colleges and universities 17,338 women, and in the undergraduate and graduate departments of independent and affiliated women's colleges, division A, 4,959 women, women forming thus 27.4 per cent of the total number of graduate and undergraduate students. The 22 colleges belonging to the Association of collegiate alumnæ, which are, on the whole, the most important colleges in the United States admitting women, have conferred the bachelor's degree on 12,804 women. If we add to these the graduates of the Women's college of Brown university, 102 in number, and the graduates of the 14 additional coeducational colleges included in my list of the 58 most important colleges in the United States, we obtain, including those graduating in June, 1899, a total of 14,824 women holding the bachelor's degree.[1] There is thus formed, even leaving out of account the graduates of the minor colleges, a larger body of educated women than is to be found in any other country in the world. These graduates have received the most strenuous college training obtainable by women in the United States, which does not differ materially from the best college training obtainable by American men (indeed, women graduates of coeducational colleges have received precisely the same training as men), and may fairly be compared with the women who have received college and university training abroad. In other countries women university graduates, or even women who have studied at universities, are very few ;[2] in America, on the other hand, the higher education of women has assumed the proportions of a national movement still in progress. We may perhaps be able to guide in some degree its future development, but it has passed the experimental stage and can no longer be opposed with any hope of success. Its results are to be reckoned with as facts.

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[1] A private law school for women existed for some years in the city of New York, founded by Madame Kempin, a graduate of the University of Zurich. At the request of the Women's legal education society it was incorporated with the New York University law school.

[2] See U. S. ed. rep. 1897–98, p. 1825, corrected according to note 1, page 15 of this monograph.

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[1] The number of women graduates has been obtained in every case through the courtesy of the presidents of the colleges concerned. In some cases the women graduates have had to be selected from the total number of graduates and counted separately for the purpose. As the figures have never been printed before, I give them below: 22 *colleges belonging to the Association of collegiate alumnæ* :—coeducational colleges: Boston, 522 graduates; California, 440; Chicago, 267; Cornell, 517; Kansas, 259; Leland Stanford, Jr., 289, Massachusetts institute technology, 45; Michigan, 940; Minnesota, 458; Nebraska, 263 ; Northwestern, 317; Oberlin, 1,486; Syracuse, 508; Wesleyan, 118; Wisconsin, 620. Independent colleges: Vassar, 1,509; Wellesley, 1,727; Smith, 1,679; Bryn Mawr, 321. Affiliated colleges: Radcliffe, 278; Barnard, 106; College for women of Western reserve, 135. *Additional colleges*, 15 in number: Women's college of Brown, 102; Cincinnati, 99; Columbian, 60; Colorado, about 70; Illinois, 131; Indiana, 282; Iowa, 340; Maine, 28; Missouri, no record; Ohio State university, 150; Ohio Wesleyan, 615; Texas, 60 Vanderbilt, 11; Washington (St. Louis), 55; West Virginia, 17. Total, 14,824 women graduates.

[2] The number of women studying in universities in Germany in 1898-99 was approximately 471, probably mainly foreigners (statistics given in the Hochschul Nachrichten, Minerva, etc.); in France in 1896–97, approximately 410, of whom 83

Health of college women[1]— Those who have come into contact with some of the many thousands of healthy normal

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were foreigners (Les Universités françaises, by M. Louis Liard; vol. 2 of Special Reports on Educational Subjects, Education department, London, 1898); in England and Wales in 1897–98, approximately 2,348. (See catalogues of different colleges.) The total number of women graduates in England and Wales who have received degrees, or their equivalent, from English and Welsh universities is about 2,180.

[1] Two statistical investigations of the health of college women have been undertaken; one in America in 1882, which tabulated various data connected with the health, occupation, marriage, birth rate, etc., of 705 graduates of the 12 American colleges belonging at that time to the Association of collegiate alumnæ (Health statistics of women college graduates; report of a special committee of the Association of collegiate alumnæ, Annie G. Howes, chairman; together with statistical tables collated by the Massachusetts bureau of statistics of labor. Boston: Wright and Potter Printing Co., 18 Post Office Square. 1885), and one in England in 1887 (Health statistics of women students of Cambridge and Oxford and of their sisters, by Mrs. Henry Sidgwick, Cambridge university press, 1890). The English statistics dealt with 566 women students (honor students who had taken tripos examinations and final honors, and women who had been in residence three, two and one year) of Newnham and Girton colleges, Cambridge, and of Lady Margaret and Somerville halls at Oxford. It was found that in England 75 per cent of the honor students were at the time of the investigation in excellent or good health. It was found that in America 78 per cent of the graduates were at the time of the investigation in good health and 5 per cent in fair health. In estimating the result of this investigation it is difficult to find a standard of comparison. There is no way of knowing what percentage of good health is to be expected in the case of the average woman who has not been to college. It is stated in the American health investigation, page 10, that Dr. Mary Putnam Jacobi, while obtaining data for her monograph on the question of rest for women, found that of 246 women only 56 + per cent were in good health. The American statistics were compared with the results obtained in an investigation of the condition of 1,032 working women of Boston, made by the Massachusetts bureau of statistics of labor; the comparison showed that the health of college women was more satisfactory than the health of working women. The English statistics were compared with the health statistics of 450 sisters or first cousins who had not received a college education, and it was found that, at all periods, about 5 per cent less of honor graduates were in bad health than of sisters and cousins. The comparative tables showed that the married graduates were healthier than their married sisters, that there were fewer childless marriages among them, that they had a larger proportion of children per year of married life, and that their children were healthier.

women studying in college at the present time, or who have had an opportunity to know something of the after-lives of even a small number of college women, believe that experience has proved them to be, both in college, and after leaving college, on the whole, in better physical condition than other women of the same age and social condition. Since, however, people who have not the opportunity of knowledge at first hand continue to regard the health of college women as a subject open for discussion, a new health investigation, based on questions sent to the 12,804 graduates of the 22 colleges belonging to the Association of collegiate alumnæ, is now in progress. The statistical tables will be collated a second time by the Massachusetts bureau of statistics of labor and sent to the Paris exposition as part of the educational exhibit of the Association of collegiate alumnæ.[1]

Marriage rate of college women — Here again no positive conclusions can be reached until we know what is the usual marriage rate of women belonging to the social class of women graduates. Everything indicates that the time of marriage is becoming later in the professional classes and that the marriage rate as a whole is decreasing. An investigation undertaken simultaneously with the new health investigation by the Association of collegiate alumnæ will enable us to speak with certainty in regard to the marriage rate of a large number of college women and their sisters.[2]

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[1] The health, marriage rate, birth rate, etc., of woman graduates will be compared in every case with the corresponding statistics for the women relatives nearest in age who have not received a college education; an attempt will also be made to obtain corresponding statistics for the nearest men relatives who are college graduates.

[2] The health investigation of English women students showed that the average age of marriage for students was 26.70 as against 25.53 for sisters, and that 10.25 per cent of the students were married and 19.33 per cent of the sisters, or, omitting the students who had just left college when the returns were sent in, about 12 per cent of students. The rate of marriage of students after their college course was completed and of their sisters seemed to be the same, the difference in the total number of marriages being apparently accounted for by causes existing before the termination of the college course, "possibly the desire to go to college, or to remain in college may be among them, but having been in college is not one of them." (See summary of results by Mrs. Sidgwick, page 59.) Mrs. Sidgwick concludes as a result of the investigation that not more than one-half of English

Marriage rate of college women

	Opened in	Percentage of graduates married
Vassar	1865	35.1
Kansas	1866	31.3
Minnesota	1868	24.5
Cornell	1870	31.0
Syracuse		
Wesleyan		
Nebraska	1871	24.3
Boston	1873	22.2
Wellesley	1875	18.4
Smith		
Radcliffe	1879	16.5
Bryn Mawr	1885	15.2
Barnard	1889	10.4
Leland Stanford Junior	1891	9.7
Chicago	1892	9.4

It will be seen that independent, affiliated and coeducational colleges fall into their proper place in the series, thus showing conclusively that the method of obtaining a college education exercises scarcely any appreciable influence on the marriage rate.

The marriage rate of Bryn Mawr college, calculated in January, 1900, will also serve as an illustration of the importance of time in every consideration of the marriage rate: graduates of the class of 1889, married, 40.7 per cent; graduates of the first two classes, 1889–1890, married, 40.0 per cent; graduates of the first three classes, 1889–1891, married, 33.3 per cent; graduates of the first four classes, 1889–1892, married, 32.9 per cent; graduates of the first five classes, 1889–1893, married, 31.0 per cent; graduates of the first six classes, 1889–1894, married, 30.0 per cent; graduates of the first seven classes, 1889–1895, married, 25.2 per cent; graduates of the first eight classes, 1889–1896, married, 22.8 per cent; graduates of the first nine classes, 1889–1897, married, 20.9 per cent; graduates of the first ten classes, 1889–1898, married, 17.2 per cent; graduates of the first eleven classes, 1889–1899, married, 15.2 per cent.

It must be borne in mind that the element of time is very important, and in the case of women the later and therefore younger classes are all larger than the earlier ones, see table on opposite page).

Occupations of college women — It is probable that about 50 per cent of women graduates teach for at least a certain number of years. Of the 705 women graduates whose occupations were reported in the Association of collegiate alumnæ investigation of 1883 50.2 per cent were then teaching. In 1895 of 1,082 graduates of Vassar 37.7 per cent were teaching; 2.0 per cent were engaged in graduate study and 3.0 per cent were physicians or studying medicine. In 1898 of 171 graduates (all living) of Radcliffe college, including the class of 1898, 49.7 per cent were teaching; 8.7 per cent were engaged in graduate study; .6 per cent were studying medicine; 17.5 per cent were unmarried and without professional occupation. In 1899 of 316 living graduates of Bryn Mawr college, including the class of 1899, 39.0 per cent were teaching; 11.4 were engaged in graduate study; 6 per cent were engaged in executive work (including 4 deans of colleges, 3 mistresses of college halls of residence); 1.6 per cent were studying or practising medicine, and 26.6 per cent were unmarried and without professional occupation.[1]

Coeducation vs. separate education — It is clear that coeducation is the prevailing method in the United States; it is the most economical method; indeed it is the only possible

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women of the social class of women students or their sisters marry. The American investigation of 1883 showed that 27.8 per cent of the American college graduates, their average age being 28 1-2 years, were at that time married, and that, judging by the indications of the marriage percentages among older graduates, about 50 per cent were likely sooner or later to be married. In an investigation of the marriage of Vassar graduates made in 1895, and not including the graduates of that year, it was found that rather under 38 per cent of the whole number of students, and about 63 per cent of the first four classes, were married, see Frances M. Abbott: A Generation of college women, The Forum, vol. XX, p. 378. Out of the total number of 8,956 graduates, including those graduating in June, 1899, of the 16 colleges belonging to the Association of collegiate alumnæ that have kept accurate marriage statistics, 2,059 are married, or 23.0 per cent.

[1] Mrs. Sidgwick's investigation showed that 77 per cent of all English students reporting, and 83 per cent of honor students, had engaged in educational work.

method in most parts of the country. Now that it has been determined in America to send girls as well as boys to college, it becomes impossible to duplicate colleges for women in every part of this vast country. If, as is shown by the statistics given in the successive reports of the commissioner of education, men students in college are increasing faster far than the ratio of the population, and women college students are increasing faster still than men,[1] it will tax all our resources to make adequate provision for men and women in common. Only in thickly-settled parts of the country, where public sentiment is conservative enough to justify the initial outlay, have separate colleges for women been established, and these colleges, without exception, have been private foundations. Public opinion in the United States almost universally demands that universities supported by public taxation should provide for the college education of the women of the state in which they are situated. The separate colleges for women speaking generally are to be found almost exclusively in the narrow strip of colonial states lying along the Atlantic seaboard. The question is often asked, whether women prefer coeducation or separate education. It seems that in the east they as yet prefer separate education, and this preference is natural.[2] College life as it is organized in a woman's college seems to conservative parents less exposed, more in accordance with inherited traditions. Consequently, girls who in their own homes lead guarded lives, are to be found rather in women's colleges than in coeducational colleges. From the point of view of conservative parents, there is undoubtedly serious objection to intimate association at the most impressionable period of a girl's life with many young men from all parts of the country and of every possible social class. From every point of view it is undesirable to have the problems of love and marriage presented for decision to a young girl during the four years when she ought to devote her energies to profiting by the only systematic intellectual training she is likely to receive during her life. Then, too, for the present, much of the culture and many of the priceless associations of college life are to be obtained, whether for men or women, only by residence in college halls, and no coeducational, or even affiliated, colleges have as yet organized for their students such a complete college life as the independent woman's college. So long as this preference, and the grounds for it, exist, we must see to it that separate colleges for women are no less good than colleges for men. In professional schools, including the graduate school of the faculty of philosophy, coeducation is even at present almost the only method. There are in the United States only 4 true graduate schools for men closed to women, and only 1 independent graduate school maintained for women offering three years' consecutive work leading to the degree of Ph. D. There is every reason to believe that as soon as large numbers of women wish to enter upon the study of theology, law and medicine, all the professional schools now existing will become coeducational.

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[1] Between 1890 and 1898 women undergraduate students have increased 111.8 per cent, and men undergraduate students have increased 51.2 per cent.

[2] In the college departments of coeducational colleges the average number of women studying is 48.4, whereas in the college departments of independent women's colleges the average number of women studying is 331.91, and in affiliated colleges 192.8. In 1897–98 11.4 per cent of all the women studying in coeducational colleges obtained the bachelor's degree, whereas 13.4 per cent of all the women studying in independent women's colleges obtained the bachelor's degree, which indicates probably that women prefer women's colleges for four years of residence. In the same year 13.3 per cent of all men undergraduate students obtained the bachelor's degree. The average number of graduates of the 4 women's colleges belonging to the Association of collegiate alumnæ is 1,309 per college, the average age of the colleges being 23 years; the average number of graduates of the 15 coeducational colleges belonging to the Association of college alumnæ is only 469.9, although the average age of the colleges is 27.7 years. During the 8 years from 1890 to 1898, women undergraduate students have increased in coeducational colleges 105.4 per cent, whereas they have increased in women's colleges, division A, 138.4 per cent. Precisely the reverse is true of men students (see pp. 14 and 15, including foot notes).

A modified vs. an unmodified curriculum — The progress of women's education, as we have traced it briefly from its beginning in the coeducational college of Oberlin in 1833, and the independent woman's college of Vassar in 1865, has been a progress in accordance with the best academic traditions of men's education. In 1870 we could not have predicted the course to be taken by the higher education of women; the separate colleges for women might have developed into something wholly different from what we had been familiar with so long in the separate colleges for men. A female course in coeducational colleges in which music and art were substituted for mathematics and Greek might have met the needs of the women students. After thirty years of experience, however, we are prepared to say that whatever changes may be made in future in the college curriculum will be made for men and women alike. After all, women themselves must be permitted to be the judges of what kind of intellectual discipline they find most truly serviceable. They seem to have made up their minds, and hereafter may be trusted to see to it that an inferior education shall not be offered to them in women's colleges, or elsewhere, under the name of a modified curriculum.

Department of Education
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MONOGRAPHS ON EDUCATION
IN THE
UNITED STATES

EDITED BY
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8

THE TRAINING OF TEACHERS

BY

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This Monograph is contributed to the United States Educational Exhibit by the State of New York

THE TRAINING OF TEACHERS

The agencies of an institutional character for training teachers in the United States are the following: Normal schools and colleges, teachers' training classes, teachers' institutes, summer schools, university extension lectures, teachers' reading circles, chairs of education in colleges and universities, and teachers' colleges. None of these agencies go far back in our history; all of them, on the contrary, sprang directly or indirectly out of the educational revival that began to show marked power in the most progressive countries early in the present century. We shall understand the origin and development of these agencies the better if we first glance at the preparation of teachers in the period preceding this revival.

The first thing to be considered is the fact that the training of teachers, as the phrase is now understood, had previously been wholly neglected throughout the country. Teachers had no other preparation for their work than their natural aptitude for the art, their knowledge of the subjects which they taught, and such practical lessons as they learned in their school rooms. As respects their academic preparation, they presented, as a class, a very motley appearance, as a cursory view of the schools of the country will abundantly show.

New England was much better supplied with schools of all kinds than any other section of the country. Here were found four of the nine colleges that existed at the time of the revolutionary war; here permanent grammar schools and academies existed in larger numbers than elsewhere; and here were the only systems of public schools that had been founded. The teacher was always highly respected by the Puritans; but some of the accounts of teachers and schools that have come down to us bear a striking resemblance to the descriptions of the state of education existing in Switzerland and France in the youth of Pestalozzi. In the early time we read of one town, for example, that required its schoolmaster to perform the following duties in addition to taking charge of the school: to act as court messenger, to serve summonses, to conduct certain ceremonial services of the church, to lead the Sunday choir, to ring the bell for public worship, to dig graves, and to perform other occasional duties.[1] Matters improved as time went on, but Horace Mann wrote of Massachusetts as late as 1837: "Engaged in the common schools of the state there are now, out of the city of Boston, but a few more than a hundred male teachers who devote themselves to teaching as a regular profession. The number of females is a little, though not materially, larger. Very few even of these have ever had any special training for their vocation. The rest are generally young persons, taken from agricultural or mechanical employment, which have no tendency to qualify them for the difficult station; or they are undergraduates of our colleges, some of whom, there is reason to suspect, think more of what they are to receive at the end of the stipulated term, than what they are to impart during its continuance."[2] The winter schools were taught by men, the summer schools by women, the men being much the better fitted for the office of instruction.

In the middle states education had never taken on a strong institutional form. The four colleges of that section — Philadelphia, New Jersey, Queen's and King's — were much younger and weaker than Harvard and Yale; academies and grammar schools were less firmly established than east of the Hudson river, while common schools were wholly of a voluntary or parochial character. Private schools and domestic instruction were mainly relied on. The old Dutch schoolmasters of the Hudson and the Delaware performed quite as many offices as ever the New England schoolmasters performed. They were forereaders and foresingers in the churches, comforters of the sick, and church clerks, not to mention other services, as well as pedagogues.[1] President Dwight, of Yale college, visiting the city of New York early in this century, gives this account of the majority of the schools that he found there: "An individual, sometimes a liberally educated student, having obtained the proper recommendations, offers himself to some of the inhabitants as a schoolmaster. If he is approved and procures a competent number of subscribers, he hires a room and commences the business of instruction. Sometimes he meets with little, and sometimes with much encouragement."[2] And so it was, for the most part, throughout the middle states.

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[1] Boone, R. G. Education in the United States, p. 12.

[2] Life and Works of Horace Mann, vol. II, p. 425.

At the south schools were still less firmly rooted. Here was found, before the revolutionary war, but a single college, William and Mary, and academies of a permanent character were infrequent. In the later colonial days, and perhaps afterwards, it was common for southern gentlemen to send abroad for university educated men, who were duly installed as teachers in their families. Thus George Mason, the distinguished Virginia statesman of the revolutionary era, sent to Scotland for two teachers in succession for his sons.[3] At an earlier time it was still more common in the southern states for heads of families to buy teachers in the market as the Romans bought them in the days of Cicero; such teachers being commonly redemptioners, men who had sold their services for a term of years to a merchant or shipmaster in payment for their transportation to America, but sometimes, also, convicts who had been expatriated. It was common, too, at the south, and in a less degree in the middle states, for leading families to send their sons abroad to be educated. Thus the father and two elder brothers of Washington were sent to Appleby school in England. Foreign trained teachers were much more common at the south than at the north. Andrew Bell, author of the Madras system of education, taught in Virginia through the period of the revolutionary war.[1] The Scotch-Irish race, both in and out of the country, furnished a large number of teachers, some of whom were as vagrant in their habits as the wandering scholars of the sixteenth century. "The whole southern country," writes one who has carefully studied the subject, "was opened to the wandering teachers, all the way from an educational tramp and a drunken importation from a British university, to now and then, probably, a competent teacher." Such men as these were met with everywhere, but more commonly at the south and west.

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[1] History of the school of the collegiate reformed Dutch church in the city of New York, etc. H. W. Dunshee, New York, 1883, *passim.*

[2] Travels in New England and New York, 4 vols. London, 1823, vol. IV, p. 443.

[3] The Life of George Mason, etc. Kate Mason Rowland, N. Y. London, 1892, vol. I, pp. 96, 97.

Following the revolution, as the different sections of the union became more closely knit together, New England, which had a surplus of teachers, such as they were, began to send her overplus beyond her borders. Other states at the north followed her example. Probably the practice antedated the war; but now the "Yankee" schoolmaster became better known in the south and west than ever the Scotch professor had been known in continental countries in the middle ages. It may be worth recalling that it was one of these New England schoolmasters, Eli Whitney, who invented the cotton gin, which gave such an impulse to cotton production and cotton manufacture. William Ellery Channing taught as a private instructor in Richmond, Virginia, in 1798–1800; William H. Seward taught part of the year 1819 in Georgia; Salmon P. Chase carried on his select classical seminary in Washington in 1827–28, while studying law in the office of William Wirt; and at a later day James G. Blaine taught for a time in the Western Military institute at the Blue Lick Springs, Kentucky. Women, as well as men, went to the south to teach. Probably most of these teachers returned north again after a period of service; but some remained and became identified with the country. Thus the gentleman quoted from above testifies: "In my wanderings through the older Atlantic states, I have come upon a good many old men and women who left New England as teachers and married and settled among the people."[1] It must be added that at the south, and in the middle states in less degree, men of superior education looked with little favor upon teaching as a vocation, being more interested in the professions or in public life.

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[1] The Life of Rev. Andrew Bell, etc. By Robert Southey, London, 1844, vol. I, chap. II.

The general situation in the first quarter of the present century may be summed up as follows: The teachers of the best academies, grammar schools, and select schools were educated men, a large majority of them trained in the colleges of the country, but some in the universities of the old world, particularly of England and of Scotland. Not unfrequently these teachers were ministers of religion actually in charge of parishes or churches. In fact, it had always been common for ministers to teach, if not formal schools, then private pupils in their own studies. Next to this group the best educated teachers, as a class, were college students and young men preparing for professional life — the law, medicine, or the ministry — who had resorted to teaching for the time as a means of supplying themselves with needed funds. John Adams, after graduating from Harvard college in 1755, taught for a time in the grammar school at Worcester, Massachusetts. Some of these persons, by reason of aptitude, enthusiasm, and scholarly attainments, were excellent teachers. The third group to be mentioned was composed of persons who had studied in the academies and grammar and select schools but had not attended institutions of a higher grade. These were found not only in the elementary schools but in the grammar schools and academies themselves. Schools of this grade, it may be explained, performed a double function; they sent young men to the colleges, but a much larger number directly into practical life. Much of the instruction that they furnished, especially the inferior schools, was of a strictly elementary character. The fourth group, found in the common schools, were fitted, so far as they were fitted at all, some in the grammar school and academies, but many more in just such schools as they taught themselves. Sometimes, however, a college student, or even graduate, was found in one of the common schools.

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[1] Dr. A. D. Mayo, in private letter.

In America, as in Europe, the education of women had been greatly neglected. In the first half of the eighteenth century fewer than forty per cent of the women of New England who signed legal papers wrote their names; the others made their mark.[1] Mrs. John Adams, writing of the middle of the century, said female education in the best families went no further than writing and arithmetic; in some few and rare instances music and dancing. It was fashionable, she said also, to ridicule female learning.[2] Girls were not admitted to the public schools of Boston until 1769. When the first quarter of this century was well turned some change for the better was apparent; but even then, there were slight manifestations of that splendid outburst of interest in women's education which was carried in the bosom of the great democratic movement. All this was the more unfortunate because a large proportion of the teachers, at least in the northern states, were women, who were, generally speaking, grossly incompetent and miserably paid.

Still it must not be supposed that, down to the educational revival, no attention was given to the qualification and preparation of teachers. That were a great mistake; the maintenance of colleges and academies was often advocated on the ground that they would furnish teachers for the common schools. Dr. Franklin, for example, in urging the claims of the Academy of Philadelphia, now the University of Pennsylvania, remarked upon the great need of schoolmasters, and said the academy would be able to furnish teachers of good morals well prepared to teach children reading, writing, arithmetic, and the grammar of their mother tongue.[1] But nothing was said or done, so far as known, relative to instructing prospective teachers in the science and the art of teaching.

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[1] The Evolution of the Massachusetts public school system, G. H. Martin, New York, 1894, p. 75.

[2] The Familiar letters of John Adams and his wife Abigail Adams during the revolution, with a memoir of Mrs. Adams by Charles Francis Adams. New York, 1876, pp. xxi, 339.

It is clear, therefore, that, at the opening of this century, there was urgent need of a general educational revival throughout the country, and particularly of a revival, or creation, of interest in the training of teachers. Both of these needs were the more pressing because population was largely increasing, owing partly to its growing density in the old states, but more to its rapid extension into the new regions of the west. There was, in fact, no other part of the union where the schoolmaster so much needed to be abroad as on the western frontiers.

In fact, the two elements that have just been mentioned could not be separated. In America, as in Europe, the demand for better teachers was a marked feature of the great democratic movement towards popular education; perhaps it may be called *the* feature of this movement. Early in this century calls began to be heard in various parts of the United States, at first in slow and then in rapid succession. These calls were not made according to a program; there was no central propaganda; in fact, there was little direct connection between the early discussions and efforts to do something in different parts of the country. On the other hand, these discussions and efforts sprang from the forces or causes that produced the great educational uprising in this country and in other countries. Men will differ as to the relative power of these forces, or perhaps even as to the number; but the best judges, it is believed, will hardly dispute the assertion that, in America at least, the democratic spirit was the most far reaching and efficacious of such causes. "Schools must be provided for the people", "the property of the state must educate the youth of the state", "the schools must have better teachers", became national watchwords.[1]

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[1] History of education in Pennsylvania, etc. J. P. Wickersham, Lancaster, Pa., 1886, p. 606.

I NORMAL SCHOOLS

The highly mechanical method of teaching that bears the names of Bell and Lancaster, called also mutual and monitorial instruction, demanded much skill in its conductors. Among other places, this method took root in the city of Philadelphia, and there, in 1818, it called into existence the model school, which was, no doubt, the first school established in the country for the training of teachers; it did not, however, outlive the movement of which it was a part.

The first permanent normal schools were the three founded at Lexington, Barrie, and Bridgewater, Massachusetts, in 1839–40. They were an outgrowth of the interest in popular education and especially of interest in schools for preparing common school teachers, which had been increasing for years, and particularly after German influence began to be felt upon American education, that is, about 1820. These primitive schools were in all respects on a small scale—studies, teachers and pupils. Candidates to be admitted were required to be, if males, seventeen years old, if females, sixteen years. They were required to declare an intention to become school teachers; they also took an entrance examination, and submitted evidence of intellectual capacity and moral character. The minimum term of study was fixed at one year, and at its expiration the pupil, if deserving, was promised a certificate of qualification. The official course of study, prepared by the state board of education, said the studies first to be attended to should be those which the law required to be taught in the district schools, viz.:

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[1] The writer has given a much fuller account of the state of schools in the United States previous to 1837 in his work entitled "Horace Mann and the common school revival in the United States." New York, 1898, chaps. I, II. See also chapters on various aspects of our educational history by Dr. A. D. Mayo, in the reports of the commissioner of education, 1895, 1896, 1897. Also chap. XXIX of the last named report.

orthography, reading, writing, English grammar, geography and arithmetic. When these were thoroughly mastered, those of a higher order might be progressively taken. Persons wishing to remain at the school more than one year, in order to increase their qualifications for teaching a public school, might do so, having first obtained the consent of the principal; and to meet their needs, a further course of study was marked out. The whole course, properly arranged, was as follows:

(1) Orthography, reading, grammar, composition and rhetoric, logic; (2) writing, drawing; (3) arithmetic, mental and written, algebra, geometry, bookkeeping, navigation, surveying; (4) geography, ancient and modern, with chronology, statistics, and general history; (5) physiology; (6) mental philosophy; (7) music; (8) constitution and history of Massachusetts and of the United States; (9) natural philosophy and astronomy; (10) natural history; (11) the principles of piety and morality common to all sects of Christians; (12) the science and art of teaching, with reference to all the above named studies. A portion of the Scriptures should be read daily in every normal school.

A selection from the above studies should be made by those who were to remain at the school but one year, according to the particular kind of school it might be their intention to teach. To each normal school an experimental or model school was attached, where the pupils could reduce to practice the knowledge that they acquired of the science and art of teaching. Every school was put in the immediate charge of a principal aided by needed assistants.[1]

Such was the program. Perhaps it is to-day most interesting when viewed as a gauge of the time, or as a base line from which to measure progress.

These primitive schools were the joint product of private and public liberality; both citizens and the legislature shared in founding them; moreover, they were an experiment, the legislature refusing at first to commit itself to their maintenance beyond the period of three years; but they so commended themselves to the public that they were soon regularly incorporated into the state system of public instruction. Furthermore, not only have these schools greatly grown, in number of pupils and teachers, in appliances and breadth of studies, and in influence, but others have been added to the list until Massachusetts has now nine state normal schools.

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[1] The Common school journal, edited by Horace Mann, secretary of the Massachusetts board of education, vol. I, pp. 32–38.

The northern and western states have generally adopted the normal school idea. In the west they spring out of the soil and grow up side by side with the other institutions of civil society. Nor is this all. At the close of the civil war there was not a single normal school in the southern states; since that time, however, they have been generally introduced as an indispensable feature of the common school system. The places and times at which some of the leading schools were established will illustrate the progress of the movement.

Albany, N. Y., 1844.
New Britain, Connecticut, 1850.
Ypsilanti, Michigan, 1852.
Boston, Massachusetts, 1852.
Normal, Illinois, 1857.
Millersville, Pennsylvania, 1859.
Oswego, New York, 1860.
Emporia, Kansas, 1864.
Framington, Maine, 1864.
Winona, Minnesota, 1864.
Chicago (Cook county), Ill., 1867.
Plattville, Wisconsin, 1866.
Nashville, Tennessee, 1875.
Cedar Falls, Iowa, 1876.
Terre Haute, Indiana, 1870.

New York now has twelve public normal schools, Pennsylvania thirteen, Massachusetts nine, West Virginia, North Carolina, Missouri, and Wisconsin seven each. No other state has more than six, and a few have none. Ohio, however, is the only great state that has no state normal school.

Perhaps no school in this list has exerted a greater influence than the Oswego school. This influence has been largely due to the practical application that was here made of Pestalozzian ideas and methods, and to the great ability and elevation of character of its founder, Dr. E. A. Sheldon.

This development has been due partly to the quickening example of Massachusetts, but far more to the general prevalence of the same causes that acted in that state. A high educational authority has said that "all normal school work in the country follows substantially one tradition, and this * * * traces back to the course laid down at Lexington in 1839."[1] There is truth in this view, but the operation of the same general causes was, no doubt, a more powerful factor than direct imitation.

We come now to the question, What and how much are the students in the normal schools doing? Only a general answer can be given.

Candidates for admission to the Massachusetts schools must be graduates of approved high schools, or must have received an equivalent education. The general two years' course designed for intending teachers below the high school comprises, (1) psychology, history of education, principles of education, methods of instruction and discipline, school organization, and the laws of Massachusetts; (2) methods of teaching English, mathematics, science, vocal music, physical culture, and manual training; (3) observation in the model school and in other public schools. The Bridgewater school has a regular four years' course embracing, in addition to the foregoing studies, work of a more academic character, as instruction in Latin and French, Greek and German, English literature, history, etc. This course looks to the preparation of grammar school principals and a grade of high school teachers. Bridgewater also offers a three years' course, a cross between the other two, while provision is also made for advanced instruction for college graduates and other approved candidates in all the schools. Diplomas are given to graduates from all courses.[2]

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[1] Dr. W. T. Harris, oration delivered at Framingham, Mass., 1888. See Proceedings of the semi-centennial celebration of the founding of state normal schools in this country.

[2] See Sixty-second annual report of the board of education, Massachusetts, 1897–98, *passim;* also reports of the various normal schools, particularly that of the school at Bridgewater for 1898–99.

The other state normal schools, while conforming in the main to the Massachusetts type, present numerous variations. The common standard for admission is not as high by at least two years of high school study. Often, however, there will be found a greater variety of instruction than the Massachusetts schools furnish, and partly for the very reason that the standard is not as high. On the whole, for some years past there has been a marked tendency to raise the standard of admission and to strengthen and diversify courses of study. Advanced courses for normal school graduates and other candidates having an equivalent education are well nigh universal. Furthermore, the best schools in their best courses give an amount of instruction that will carry the student nearly, if not quite, to the middle of a good college course. Naturally, therefore, many students pass from the normal schools to the colleges and universities. Special courses for college graduates are often met with, designed to give, in a single year, a professional preparation for teaching.

Some schools have assumed the higher name of college, in connection with the assumption of some higher function. Thus, the Michigan state normal college gives the degree of bachelor of pedagogics to students who complete satisfactorily its four years' course of study. It also confers the corresponding master's degree upon those bachelors who comply with some further conditions, none of which, however, involve the element of residence.

The Normal college of the city of New York, which has as its main function the training of teachers for the schools of that city, offers two main courses of instruction, the normal course of four years and the academic course of five years. A special diploma is granted to those students who complete the normal course; moreover, such graduates may obtain the degree of bachelor of arts or bachelor of science, if they successfully pursue a two years' graduate course in literature or science. The academic course, which contains Greek, is crowned with the degree of bachelor of arts, and graduates in this course may receive the degree of master of arts provided they afterwards pursue graduate studies for at least two years. The degree of bachelor of pedagogy or doctor of pedagogy may be conferred on any graduate in either of these courses who has made a study of the science and the art of teaching for a period of at least two years after graduation. Graduation from an approved high school, or an equivalent amount of education, is the educational qualification for admission.

One of the prominent institutions of this class is the New York state normal college at Albany. This institution is an outgrowth of the first New York normal school, founded in 1844, the reorganization taking place in 1890. It is a professional school exclusively, not duplicating the instruction given in literary colleges. The purely professional work in both courses, the English and classical, is the same, and graduates from both receive life certificates to teach in the public schools of the state; graduates in the higher course also receive the degree of bachelor of pedagogy. Graduates from fifty colleges and universities have sought instruction in the college.

The two oldest public normal schools of Illinois are called normal universities. The name, however, is purely historical, and has no educational significance whatever.

The cities have followed the states in founding normal schools, often called, however, training schools. The principal reason for maintaining such schools is the urgent need for trained teachers for the local system of schools, which cannot be otherwise supplied. Other reasons, as the desire on the part of local authorities to round out the system with a professional school, and the wish of parents to have their daughters prepared for teaching, also exert some influence. Many of the public normal schools fall into this class. Nearly all the large cities, and many of the small ones, have their own independent schools. Greater New York has several of them. These schools commonly make graduation from the local high school, or an equivalent education, a qualification for admission, and they graduate their students after a one year's or a two years' course. In 1895 the legislature of New York passed an act which authorizes the cities of the state and villages employing superintendents of schools, to establish and maintain one or more schools or classes for the professional instruction and training of teachers in the principles of education and in the method of instruction, for not less than thirty-eight weeks in each school year. Such schools receive assistance from the state funds; the requirements for admission and the course of study are fixed by the state superintendent of public instruction, under whose general direction such schools are carried on; graduation from an approved high school or academy has been made the test of admission. The results have been so encouraging that the superintendent pronounces the law the most important statute relating to its subject which has been enacted in any state in the union.[1]

With the single exception of the Philadelphia model school, the first schools of the country to train teachers were private schools, created and carried on by their owners and managers, as means of livelihood and instruments of doing good. Nor has the establishment of public schools driven the private ones out of the field. On the contrary, the private schools have greatly increased in number, and have assumed the name normal. Some of them are the property of corporations, some of private owners. A few rival the public schools in number of students and teachers and in equipment. They are more numerous, but have not so large an aggregate attendance, as the accompanying statistics will show.

The Peabody Normal college, Nashville, Tennessee, has a unique history among American schools for the training of teachers. It takes its name from the distinguished philanthropist George Peabody, a name well known in both worlds, and derives the larger part of its support from the education fund that Mr. Peabody created in 1867–69, committing it to a board of trust, with instructions to apply the income, at their discretion, for the promotion and encouragement of intellectual, moral, or industrial education among the young of the more destitute portions of the southern and southwestern states of the American union. This board soon made choice of the preparation of teachers as the best means of carrying out the founder's wishes. In connection with the trustees of the university of Nashville, an old institution of learning that had fallen into decay, the board founded, in 1875, the normal school, which has since expanded into the college. The state of Tennessee has since come to the assistance of the two boards of trustees. The general agent of the Peabody fund says of it: "Giving to all the southern states the benefit of improved normal instruction widened the college from a local state institution into a college for the south." And again: "In establishing the college there there was no intent to favor Tennessee above other southern states. The training of teachers for all the southern states was the object. As the munificence of Mr. Peabody was the stimulus and the means for establishing systems of public schools in the states, so the normal college has pointed the way and aroused the effort for the organizing of more local but indispensable normal schools."[1] The college is the literary department of the university of Nashville, and confers, in addition to the degree of licentiate of instruction, the usual degrees conferred by the literary and scientific colleges. The Peabody trustees, besides their other contributions to the support of the college, provide a liberal system of scholarships for the assistance of students who wish to prepare themselves for teaching.

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[1] Report of the superintendent of public instruction, New York, 1898, vol. I, xxv.

In the normal schools of the country women hold the same relative preponderance as students that they hold in the common schools as teachers, as the statistics clearly show.[2] It is interesting to observe, however, that they are far more numerous, relatively as well as absolutely, in the public normal schools than in the private ones, which is owing, for the most part probably, to the fact that tuition is free in the one case and not in the other.

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[1] A Brief sketch of George Peabody and a history of the Peabody education fund through thirty years, by J. L. M. Curry, Cambridge, 1898.

[2] In 1896–97 the numbers of male and female teachers in the common schools of the country, as reported by the bureau of education, were as follows: Males, 131,381; females, 271,949.

Kindergarten teachers are frequently trained for their work in normal schools, and occasionally manual training teachers as well. Mention may be made in particular of the Chicago Kindergarten college, which aims to extend help to kindergartners, primary teachers, mothers, or other persons intrusted with the education of little children. The work is distributed among seven different departments, of which the teachers' department stands first, followed immediately by the mothers' department. The teachers' department provides both central and branch classes. The regular teachers' course is three years, the educational qualification for admission to it being a high school education or its equivalent.

Numerous and well attended as normal schools have become, they still come very far short of supplying the common schools with a sufficient number of professionally trained teachers. In this connection it must be considered that a great army of teachers is required to carry on the common schools of the country, and that a great majority of this army serve for short periods. In 1896–97 the total number was 403,333, and it increases by an increment of many thousand every year. Assuming that ten per cent pass out of the service every year, which is a very moderate estimate, we see that more than 40,000 recruits are needed annually to keep the ranks full, to say nothing of meeting the growth of the country. But this number is more than three times the number of normal graduates in 1897–98, and more than one-half the total number of students in all the training schools and classes in the country. No state makes a better showing than Massachusetts; but in 1897–98 only 38.5 per cent of her teachers in public schools had received normal instruction, and only 33.5 per cent were normal graduates. Of those who had not received such instruction, the secretary of the state board of education says a few have probably been appointed without reference to their fitness for their work; some have had a little preliminary training in schools for the purpose; some began to teach before normal preparation had attracted the attention of school committees that it has done in recent years, while some are college graduates.[1] Unfortunately, we do not possess the statistics that would enable us to make a similar showing for the whole country.[2]

STATISTICS OF NORMAL SCHOOLS IN THE UNITED STATES FOR 1897–98[3]

	Public normal schools	Private normal schools	Total
Number of normal schools................	167	178	345
Teachers instructing normal students.....	1,863	1,008	2,871
Students in teachers' training courses.....	46,245	21,293	67,538
Male students........................	12,578	10,597	23,175
Female students	33,667	10,696	44,363
Number normal graduates................	8,188	3,067	11,255
Male graduates.......................	1,543	1,689	3,232
Female graduates	6,645	1,378	8,023
Volumes in libraries.....................	566,684	194,460	761,144
Value of buildings, grounds, apparatus....	$19,980,222	$5,047,507	$25,027,729
Value of benefactions received in 1897–98.	336,185	240,203	576,388
Total money value of endowment.........	1,472,865	2,311,594	3,784,459
Appropriated by states, counties and cities for buildings and improvements, 1897–98.	417,866	....	417,866
Appropriated by same for support	2,566,132	19,696	2,585,828
Received from tuition and other fees	514,562	648,459	1,163,021
Received from productive funds..........	57,648	38,759	96,407
Received from other sources and unclassified..	307,409	191,995	499,404
Total income for 1897–98................	3,445,751	898,909	4,344,660

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[1] Sixty-second annual report of the board of education, Massachusetts, 1897–98, p. 148.

[2] President J. G. Schurman, of Cornell university, has calculated from data furnished by the report of the commissioner of education that in 1891–92 the total increase of teachers in the schools was less than two per cent, but that nearly seventeen per cent of the whole number of teachers were inexperienced beginners. Assuming that these per cents are typical, he infers that the average length of the professional career of the American teacher is between seven and eight years. From data furnished by the same authority, he calculates that only fifteen per cent of the teachers then in the schools had passed through a normal school.—*The Forum*, Vol. XXI, pp. 174, 179.

[3] This table is furnished by the commissioner of education in advance of its publication in his report for the year 1897–98.

Dr. W. T. Harris has shown that in the past seventeen years the enrollment in normal schools reported by states or cities has increased from about 10,000 to something over 40,000. The attendance on normal schools formed and supported by private enterprise has increased from about 2,000 to 24,000, though the increase has been very slow in the last three years. In 1880 there were 240 normal students in each million of inhabitants; in 1897 there were 976 in each million.[1]

The American normal schools answer, in general, to the normal schools of France and Italy, the training colleges of England, and the teachers' seminaries of Switzerland and Germany. They differ, however, from all these schools in important particulars. For instance, they offer at least three points of contrast to the German teachers' seminaries.

First, in respect to the instruction furnished. While the German schools confine themselves exclusively to training intending teachers, including, to be sure, much academic instruction, American schools generally do a large amount of miscellaneous teaching. To a great extent they parallel the high schools and to some extent even the elementary schools. In the second place, this wide range of work accounts in part for the much greater size of the American schools. In 1888 only five of the 115 normal schools of Prussia had upwards of a hundred pupils, while one had less than fifty; but several of our state schools count more than a thousand pupils. It must always be borne in mind that a large proportion of these American pupils are in no proper sense normal pupils. In the third place, there is necessarily a great disparity in the size of the respective faculties. An ordinary Prussian normal school requires but nine teachers, including the two in the practice school, while our normal school staffs often number fifty or more persons.

It is clear, therefore, that we have not yet realized the pure normal school type as Germany, for example, has done. Nor can it be doubted that our schools as institutions for training teachers have often suffered greatly from their overgrown numbers and large classes. In Prussia, once more, the average number of pupils per teacher is not more than twelve. It is accordingly to be hoped that in the future we may realize the normal school idea in purer form than in the past.[1]

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[1] *The Educational review*, January, 1899, p. 8.

II TEACHERS' TRAINING CLASSES

For the school year 1896–97 there reported to the Bureau of Education 1,487 institutions which enrolled 89,974 normal students, or students pursuing courses designed for the professional training of teachers. Those students who were pursuing in these schools other courses of study are not included in this total. The following table will show how the students were distributed:

Schools	Number	Students
Public normal schools	164	43,199
Private normal schools	198	24,181
Colleges and universities	196	6,489
Public high schools	507	9,001
Private high schools and academies	422	7,064

Nothing need be added to what was said in the former division of this monograph concerning the normal schools.

But the normal students, so called, in the colleges and universities are a less definite body of persons. The normal work that many of them do does not differ in character from that done in the proper normal schools; a smaller number are taking the strictly professional courses leading up to the academic degrees, which will be explained in another place; some are members of what may be called teachers' training classes. The training work done in the institutions of this class is of very different degrees of quality; some of it, perhaps, amounting to nothing more than attendance upon one or two courses of lectures, while some of it is of strictly university grade. The statistics given under this head are the least value of all, partly on account of the facts just stated, and partly because the returns are not complete.

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[1] On normal schools in the United States, see the following authorities: Henry Barnard, Normal schools and other institutions, agencies, and means designed for the professional instruction of teachers, Hartford, 1851. J. P. Gordy, Rise and growth of the normal school idea in the United States, Washington, 1891. G. H. Martin, The Evolution of the Massachusetts system of public instruction, New York, 1894, Lecture IV. B. A. Hinsdale, Horace Mann and the common school period in the United States, New York, 1898, chapter VI. S. S. Randall, History of the common school system of the State of New York, New York, 1871, *passim*. J. P. Wickersham, History of education in Pennsylvania, etc., Lancaster, Pa., 1894, *passim*. A. P. Hollis, The contribution of the Oswego normal school to educational progress in the United States, Boston, 1898. Proceedings of the semi-centennial celebration of the state normal school at Framingham, 1889, particularly the oration delivered by Dr. W. T. Harris.

The normal students in high schools and academies, more than 16,000 in number, are, generally speaking, in training classes. They may be divided into three groups.

First, many of these students in the private schools, and no doubt some in the public ones, have had nothing more than a fair elementary education, if indeed some of them have had as much education as that. They are looking forward to teaching, most of them in the district schools, and have come into the high schools and academies where they are found to enlarge their knowledge of the branches that they expect to teach and to receive some professional instruction in addition.

Secondly, some instruction in the principles of education and its history is often made an elective study in the last year of the high school or academy course for those students who are looking forward to teaching. The elementary schools look for many of their teachers to the graduates of the high schools and academies, particularly the public high schools, and even the limited amount of training that they receive fits them in a measure for teaching.

Thirdly, classes are sometimes formed in these schools consisting of graduates who wish, or are required, to fit themselves more thoroughly for the teacher's work. Such classes do not differ from the city training schools, only they are less fully developed. They may be called rudimentary training schools.

The training class is an old device for preparing elementary teachers. Thus New York early sought to solve the teacher problem for the common schools by providing instruction for teachers in the academies of the state, under the management of the regents of the university. This experiment did not prove to be as successful as had been hoped, and the state supplemented it by adopting the normal school policy. The earlier plan was never abandoned, however, but in 1889 the supervision of training classes was transferred to the department of public instruction. In the year 1888–89 sixty institutions were authorized to organize and to carry on such classes. In 1895 the legislature passed the law referred to under the last heading, which has put the training classes on a new footing both as respects management and instruction.

With a single exception the leading features of this act have already been given. The omitted feature is that no person shall be employed or licensed to teach in the elementary schools of any city or village authorized by law to employ a superintendent of schools (that is, cities and villages having 5,000 inhabitants or more) who has not taught successfully at least three years, or in lieu of such experience, graduated from a high school or other school of equal or higher rank, having a course of study of not less than three years approved by the state superintendent of public instruction, and subsequently received at least as much professional training as that furnished by one of these training schools or classes; local boards were left free to place their requirements as much higher as they see fit.

The terms of admission to the training classes are the same as those for the training schools organized under the same law. The course of instruction embraces the leading common branches, the history of education, school management and school law, and the art of questioning. Instruction in the school studies includes both subject-matter and method, together with some work in the observation and practice school. In his report for 1897–98, the state superintendent says that in no branch of the work under his direction have more gratifying results been secured than in the training classes. For that year there were organized eighty-three such classes, enrolling 1,278 students. The same year fourteen cities organized training schools under the law with an attendance of 523.[1]

III TEACHERS' INSTITUTES

The teachers' institute, which is an original American institution for training teachers, has grown up side by side with the normal school. The commonly accepted account of its origin is that it dates from conventions of teachers held in Hartford, Connecticut, in 1839 and 1840, under the leadership of Dr. Henry Barnard. That it met a popular need is shown by its rapid spread. The first institute in New York, and the first anywhere to bear the name, was held in 1843; the first in Massachusetts and Ohio, 1845; the first in Michigan and Illinois, in 1846; the first in Wisconsin, in 1848, and the first in Iowa, the year following. The institute system soon embraced the whole northwest, and it was established in the south along with common schools after the civil war.

At first the institute was a purely voluntary agency. There were no funds for its support, save such as the teachers attending and public-spirited citizens supplied. Often citizens showed such interest in the work that they freely opened their houses to receive the teachers, not as boarders but as guests. But such an instrument of power could not long remain outside the limits of the law. Massachusetts appropriated money for institutes in 1846; New York and Ohio, in 1847; Pennsylvania, in 1855. In course of time the institution was firmly imbedded in state school laws, and at present most of the states, if not all of them, give it some legal recognition and financial support. Tuition is free, unless, indeed, as is often the case, the teachers voluntarily contribute out of their own pockets fees, in order to extend the length of the session or to provide better instruction than would otherwise be possible.

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[1] On teachers' training classes in the state of New York, see S. S. Randall, History of the common school system of the State of New York, N. Y., 1871, *passim*, and reports of the state superintendent of public instruction, 1889–90, and 1897–98, *passim*.

Institutes are of numerous types, presenting such divergencies that it is difficult to define the species. There are state institutes and county institutes; district, city, and town institutes. However, the best known type takes its name from the county, which is the civil division that, as a rule, furnishes the best unit of organization and management. This type alone presents many varying features. Some county institutes continue but a day or two; some, several weeks. Some are conducted by state authorities, as the superintendent of public instruction or his assistants; some by local authorities, as county superintendents, or officers of teachers' institute associations. Some are carried on much like a school, with text books, set lessons, and recitations, together with lectures; some depend upon lectures alone. Some are graded with a view to securing instruction especially adapted to the different classes of teachers; others are wholly unclassified and the attendants all receive the same instruction. Sometimes two or more counties are thrown together in one district, it may be for a year only, in order to secure, through the concentration of funds and influence, a longer term and better advantages. State institutes, which are infrequent, commonly look more to the needs and interests of the better teachers of the state. City institutes are conducted with special reference to local needs.

Dr. Barnard called his conventions of teachers only as a temporary expedient. In his first circular announcing his purpose, he proposed to give those teachers an "opportunity to revise and extend their knowledge [1] of the studies usually pursued in district schools and [2] of the best methods of school arrangements, instruction and government under the recitations and lectures of experienced and well-known teachers and educators." On these two lines the institute has continued to move; that is, it has combined, with fluctuating emphasis, the two ideas of general and special preparation for teachers. Commonly the revision and extension of studies comes through the instruction in methods, as instructors or lecturers draw freely upon subject-matter for the purpose of illustration; but sometimes formal instruction is given in the more difficult parts of the several subjects taught in the schools, as geography, grammar, history, and the like. The professional instruction relates to the science, the art, and the history of teaching, and school organization, management, and economy. Mention should be made, however, of what may be called the culture aspect of the institute — the lectures and other exercises that bring forward literary, historic, scientific, and other similar subjects. The institutes of the states taken together would furnish a wide range of instruction and culture. In those of Massachusetts for 1897–98, there were presented seventy-three distinct topics, which no doubt considerably overlapped.

Putting all the facts together, we may give this definition of a teachers' institute: A school for teachers having a short and a vaguely defined course of study, and having as its main object the instruction of teachers, and particularly non-professional teachers, in the elements of their art and their stimulation to excellence in scholarship and teaching.

The institutes are held in all seasons of the year, summer being, perhaps, the preferred time. In Pennsylvania and New York, in both of which states the work is well organized, they come in the months October–December and March–May.

So long as attendance was purely voluntary the results were gratifying but not satisfactory; often, but not universally, the principle of legal compulsion has therefore been invoked. In 1867 Pennsylvania passed a law requiring acting teachers to attend their respective institutes. A similar provision is in force in the state of New York. When attendance is compulsory, the teacher's salary goes on, the same as though she were on duty in the school room; at least if the institute is held in the school term. In such cases the local school authorities are required to close the schools, but when attendance is optional, they follow their own counsel in the matter.

Statistics of teachers' institutes are not found in the recent annual reports of the Bureau of Education. For the year 1886–87 the commissioner reported 2,003 institutes, with an enrolled attendance of 138,986 persons. It would not be wide of the mark, perhaps, to say that the annual attendance equals one-half the total number of teachers in the schools.

Institute instruction is a more difficult art than class-room instruction. It combines the best elements of the lecture and the recitation. It is not surprising therefore that the institute has created a class of professional instructors or lecturers. The agents of the Massachusetts board of education devote much time to the institutes, while New York supports a special institute faculty. There has also appeared a class of lecturers, some with and some without other educational connections, who move in much wider circles, visiting institutes in widely separated states. Still, taking the country together, the main reliance is upon men and women who are regularly engaged in school work, as superintendents, and principals of schools and professional teachers. College and normal school professors are also frequently drawn into the service. In fact, if the annals of the institute were written in full, they would contain the names of many of the most eminent scholars and teachers, men of letters and men of science, of the last sixty years. Instruction in the methods of the institute is often given in normal schools.

The so-called summer institutes, extending over a period of from four to six weeks, which call together large numbers of enthusiastic teachers and very able corps of instructors, and which are becoming more common every year, do not differ materially from the summer schools soon to be mentioned, in character. They are, however, carried on under state auspices, while those schools are local or private enterprises.

At first the institute was regarded as a merely temporary expedient: it has already continued sixty years. Again, while it was called into existence only as a means of helping persons who were already engaged in teaching, it has, unfortunately, sometimes been made an agent for preparing intending teachers for their work. Still, representative educators have never for a moment regarded it as a substitute for the school, either general or special. Pressed into a service for which it was never intended, it has been the source of some evil; but the balance is overwhelmingly on the other side. It has been useful in ways that the founders did not anticipate or fully anticipate. It has given teachers higher ideals of education and teaching, enlarged their acquaintance with educational men and with one another, created professional spirit, and generated enthusiasm. It has also been an important means of developing educational intelligence and interest in society. Upon the whole, there is reason to think that the teachers' institute possesses lasting usefulness; in other words, that it fills a place in our school economy that no other agent can fill, and that it will become one of our permanent educational institutions.[1]

IV THE SUMMER SCHOOL FOR TEACHERS

In its more popular form, the summer school for teachers is a sort of cross between the normal school and the teachers' institute. Three types may be recognized.

The first type to be mentioned is seen in the schools that form part of the summer assemblies sometimes called "Chautauquas," which combine popular entertainment, recreation and diversion, and social intercourse with serious instruction and ethical and religious culture.

The next type is the familiar summer school, seen at the normal schools, colleges, and universities. Such schools have been stimulated by the example of Chicago university in offering to students regular summer terms. At some of the normal schools the summer school has already become a regular summer session ; moreover, there are indications that some of the colleges and universities will do the same thing ; in fact, the University of Wisconsin has already taken the step.

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[1] Authorities on teachers' institutes.— Henry Barnard, normal schools, etc., Hartford, 1851; The American journal of education, vol. III, p. 673, XIV, p. 253, XV, p. 276, 405, XXII, p. 557. J. H. Smart, Teachers' institutes, Washington, 1887. S. S. Randall, History of the common school system of the state of New York, N. Y., 1871, *passim*. J. P. Wickersham, History of education in Pennsylvania, Lancaster, Pa., 1884, *passim*. James P. Milne, Teachers' institutes, Syracuse, N. Y., 1894. B. A. Hinsdale, Horace Mann and the common school revival in the United States, pp. 136–138.

Schools of the third type are organized and carried on at chosen seats by private individuals or by associations of individuals. These schools combine both business and educational features. They are generally found at places offering attractive features as summer resorts, and so offer to their patrons the combined attraction of an outing and a term of school. Perhaps the best known of all these institutions is that of Martha's Vineyard, Massachusetts, founded in 1878 and chartered three years later. It is also called an institute. It has twenty academical departments, counts forty instructors on its staff, and enrolls annually five hundred students. In the twenty-one years of its history it has taught 9,000 or 10,000 persons.

Irrespective of type these schools commonly offer to their patrons both general and special advantages ; in other words, they teach both academical and pedagogical subjects, and also introduce cultural elements of a considerably diversified character. While they offer attractions to other persons, and actually enroll some of them in their classes, the great functions of these schools is to fit teachers and intending teachers for their work. Their faculties contain many instructors and lecturers of marked ability and high standing in the world of letters, education, or science. All things considered, serious instruction has not perhaps anywhere been offered to teachers in a more attractive form than in the best of these summer schools. These schools, no doubt, approach nearer than any other agencies for fitting teachers in the United States to the great summer meetings held for the same purpose at Oxford, Cambridge, and Edinburgh.[1]

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[1] Balfour Graham, The Educational systems of Great Britain and Ireland, Oxford, 1898, pp. 252, 253.

V UNIVERSITY EXTENSION COURSES

University extension is an importation from England. Here, as there, the idea is to carry the university to the student rather than to bring the student to the university. However, the "university" that is so carried is sometimes nothing more than a secondary school. The method involves a local center, a local committee of managers, local arrangements, including the guaranteeing of a certain sum of money, and an instructor. The university sends the instructor, who gives a course of lectures on a subject previously agreed upon; a class follows each lecture, essays are prepared and corrected, and needed books are supplied. In its purity the method involves a final examination and the granting of certificates to deserving students. For some reason the results of university extension in the United States have been less satisfactory than in England. Ostensibly, the movement takes no account of teachers as teachers; and the only reason for including it in this survey is the fact that teachers are generally very prominent on the local committees and in attendance upon the classes. This fact has been recognized by the occasional presentation of instruction suitable to their particular needs; pedagogical courses are sometimes met with on extension programs.

VI TEACHERS' READING CIRCLES

The teachers' reading circle movement is believed to have originated in Ohio. Mrs. D. L. Williams, a veteran teacher of that state, threw out the primal idea in a paper read before the State teachers' association in July, 1882. She said she had for many years entertained the theory that a course of reading, partly professional and partly general, and reaching through several years, might be instituted under the management of the association that would be of extreme value, particularly to young teachers, and added that since the Chautauqua literary course had proved such an eminent success, she had more confidence than ever in the feasibility of the plan. The suggestion was immediately caught up by the association, steps being taken at once that led to the immediate organization of a course of reading. The next year the Ohio teachers' reading circle was fully organized. The constitution embraced a board of control to conduct the general business in connection with the state association, a course of professional and literary reading, the issuing of certificates of progress to the members, and the granting of diplomas upon the completion of the course, which was to extend over four years. In 1884 a membership of more than 2,000 was reported, and in 1887 the first class was graduated.[1]

Such was the beginning of a movement that has extended to many states of the Union. Naturally enough, the results that have been obtained in different states and communities vary considerably in respect to efficiency and value. It is generally conceded, however, that the Indiana circle has been conducted quite as successfully as any other of the state circles, if not indeed more successfully than any other, and this fact will be a sufficient justification for some remarks of a more specific character.

This circle, which was organized in December, 1883, derives its constitution from the State teachers' association. The executive management is placed in the hands of a board of directors, one of whom is the state superintendent of public instruction ; of the six other members, one must be a county superintendent, one a city superintendent, and four practical teachers, all elected by the state association for a term of three years. It is the duty of the board to plan a course of reading from year to year to be pursued by the public school teachers of the state ; to select the books to be read ; to provide for examinations on the courses, and to prepare questions for the same ; to issue certificates to such teachers as pass the annual examination satisfactorily, and to issue diplomas to such teachers as pass the examination for four successive years. The board reports to the state association at its annual meeting. The annual membership is about fifteen thousand, twelve thousand teachers and three thousand intending teachers.

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[1] The Ohio educational monthly, August, 1882, pp. 316, 323; August, 1883, pp. 307, 308, 309.

The Indiana teachers' reading circle has been a powerful influence in the education of the state. Several circumstances have contributed to its success. One of these has been the wise management of the board of directors, which has uniformly commanded the respect and confidence of teachers. The circle has been strengthened by the official recognition of its work by the state board of education. This the board does by accepting the examinations of the reading circle in literature and the science of teaching in lieu of examinations in those subjects by the regular examining authorities. The character of the reading that is done can best be shown by transcribing the list of books from the beginning.

1884–85 — Brooks' Mental Science; Barnes' General History; Parker's Talks on Teaching.
1885–86 — Brooks' Mental Science; Smith's English Literature; Hewitt's Pedagogy.
1886–87 — Hailman's Lectures on Education; Green's History of the English People; Watts on the Mind.
1887–88 — Lights of Two Centuries; Sully's Handbook of Psychology.
1888–89 — Compayré's History of Education; The Marble Faun; Heroes and Hero Worship.
1889–90 — Compayré's Lecture on Teaching; Steele's Popular Zoology.
1890–91 — Wood's How to Study Plants; Boone's Education in the United States; with review of previous psychological studies.
1891–92 — Page's Theory and Practice of Teaching; Hawthorne's Studies in American Literature.
1892–93 — Fiske's Civil Government in the United States; Holmes' Autocrat of the Breakfast Table.
1893–94 — DeGarmo's Essentials of Method; Orations of Burke and Webster.
1894–95 — Tompkins' Philosophy of Teaching; Select Letters and Essays of Ruskin.

1895–96 — McMurry's General Method; Studies in Shakespeare.
1896–97 — Guizot's History of Civilization; Tompkins' Literary Interpretations.
1897–98 — Bryan's Plato the Teacher; Hinsdale's Teaching the Language-Arts.
1898–99 — Henderson's Social Elements; Bryan's Plato's Republic.

The Indiana circle embraces no important feature that is not found in other states; such special prominence as it enjoys is due solely to good organization and wise management.[1]

It must not be supposed that where this work is carried on efficiently it is left solely to teachers in their individual capacity; on the other hand, local classes or circles are formed, with prescribed reading for prescribed periods, which hold frequent meetings, conducted by a local leader, often the superintendent of schools. Enterprising educational journals contribute their help to the work by publishing in their successive issues articles that elucidate the books to be read.

The future of the teachers' reading circle is not, perhaps, fully assured. It is conceded that it has done much good in arousing interest in the better culture of teachers, in organizing courses of reading and study, and in giving the whole work unity and consistent direction. Still, the question is sometimes asked whether it would not now be better to leave the whole matter to local initiative and direction, or to entrust the powers now exercised by the state board of control or directors to local superintendents and their advisers. There is good reason to think that the answers which are given to this question are influenced not a little by the character of the work that has been done in the communities or states from which the answers come.

VI CHAIRS OF EDUCATION IN COLLEGES AND UNIVERSITIES

The growing interest in training teachers was not long in reaching the colleges and universities. The effect was first seen in the academical sphere, but it soon declared itself in the professional sphere.

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[1] Report of the superintendent of public instruction of the state of Indiana, 1898, pp. 449–462.

A course of instruction in the science of teaching was one of the features of the "new system" that President Wayland sought to establish at Brown university in 1850, but that system was not permanently successful owing to lack of the necessary funds to support it. Horace Mann caused the study of the theory and practice of teaching to be made a part of the regular course in Antioch college, Ohio, on the opening of that institution in 1853, but as an elective study. From 1856 to 1873 a normal school formed a department of the University of Iowa, and was then incorporated into the institution as a chair of didactics. In 1867 the legislature of Missouri authorized and required the curators of the State university to establish a professorship in that institution, to be devoted to the theory and practice of teaching and to call some suitable person to discharge its duties. The chair does not appear, however, to have been firmly established, although some instruction was given for several years in the subject, until 1891.

But it was at the University of Michigan that the teaching of education in an American college or university was first put on a solid basis. In 1874 President Angell, of that institution, incorporated the following paragraph in his annual report to the board of regents:

"It cannot be doubted that some instruction in pedagogics would be very helpful to our senior class. Many of them are called directly from the university to the management of large schools, some of them to the superintendency of the schools of a town. The whole work of organizing schools, the management of primary and grammar schools, the art of teaching and governing a school,—of all this it is desirable that they know something before they go to their new duties. Experience alone can thoroughly train them. But some familiar lectures would be of essential service to them."

In June, 1879, the regents, on the recommendation of the president and faculty, established a chair of the science and the art of teaching, the objects of which were declared to be five in number: To fit university students for the higher positions in the public school service; to promote educational science; to teach the history of education and of educational doctrine; to secure to teaching the rights, prerogatives, and advantages of a profession; to give a more perfect unity to the state educational system by bringing the secondary schools into closer relation with the university. At the time the Bell chairs of education in the Universities of Edinburgh and St. Andrews were the only similar ones in English speaking countries.

At first only two courses of instruction were offered: A practical course, embracing school supervision, grading, courses of study, examinations, the art of instructing and governing, school architecture, school hygiene, school law, etc.; and an historical, philosophical, and critical course, embracing the history of education, the comparison and criticism of the systems of different countries, the outlines of educational science, the science of teaching, and the critical discussion of theories and methods. Two lectures a week were given in each course. Before this time, however, the university had given to students, on their passing examinations in certain subjects, a teacher's diploma, which was, however, merely a certificate to the student's competency to teach those subjects. One of the two courses in education was now added to the requirements for this diploma. The field of instruction has continued to broaden and the courses to differentiate, until, in the year 1889–1900 ten different courses are offered, viz.: One in the art and one in the science of teaching; one in school supervision and one in the comparative study of educational systems; one in child study and one in the sociological aspects of education; and four in the various phases of the history of education. The total amount of work offered, given in one semester, now amounts to twenty-four hours.

Besides these courses in education, teachers' courses are offered in several departments of the university, as Greek, Latin, German, mathematics, history, etc. These courses are of two types, their character being sometimes determined by subject matter alone, but sometimes by the method of presentation together with the subject matter. In the first case, the professor gives merely a course that he thinks the intending teacher should have, properly to qualify him to teach the subject; in the second case, the professor also seeks to present, or at least to illustrate, the method of teaching the subject in the school, commonly dwelling more or less upon the peculiar difficulties that it presents.[1]

This somewhat extended account of what has been accomplished at the University of Michigan will not be thought out of place, when it is remembered that the example thus set has proved to be stimulating to other institutions of learning. The same original causes that acted in Michigan have also acted in other states. Since 1879 numerous chairs of education have been established in colleges and universities, and additional chairs are being founded every year. Education has come to be recognized as a fit, if not, indeed, a necessary subject of college and university instruction. Along this line of educational development the state universities of the northwestern and western states have been the pioneers, owing in great part to the fact that these universities are organic parts of state school systems, and in part to the fact that these sections of the country take kindly to new educational ideas.

The courses offered by these chairs or departments of education are purely elective; they count towards the student's degree the same as courses in philosophy, history, or political economy. The theory is that courses in education are just as informing and disciplinary to the student as courses in cognate subjects. Not unfrequently, the institution gives a teacher's diploma to the student who complies with certain requirements. At the University of Michigan these requirements are the following: A university degree, eleven hours of work in the department of the science and the art of teaching, and a teacher's course in some other department of the university. Not unfrequently, too, this diploma, either directly or indirectly, is legally valid as a certificate to teach in the public schools of the state.

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[1] Contributions to the science of education. By William H. Payne, New York, 1886. Chap. XV, "Education as a university study," and Appendix, "The Study of education in the university of Michigan." "Study of education at the university of Michigan," B. A. Hinsdale, in *The Educational review*, vol. VI.

At different institutions the pedagogical work, while conforming to a common type, has naturally been developed in somewhat different directions. What is more, the services of a single professor have not always proved to be sufficient to do all the work that is called for; but this phase of the subject may perhaps be treated to better advantage under the next division of the general subject.

VII TEACHERS' COLLEGES

Three hundred years ago Richard Mulcaster, master of Merchant tailors' school, London, proposed a teachers' college as a department of a university. "I conclude, therefore," he said, "that this trade requireth a particular college, for these four causes. First, for the subject, being the mean to make or mar the whole fry of our state. Secondly, for the number, whether of them that are to learn, or of them that are to teach. Thirdly, for the necessity of the profession, which may not be spared. Fourthly, for the matter of their study, which is comparable to the greatest possessions, for language, for judgment, for skill how to train, for variety in all points of learning, wherein the framing of the mind and the exercising of the body craveth exquisite consideration, besides the staidness of the person."[1] This good seed, however, fell into barren soil. Prof. S. S. Laurie renewed the suggestion in a somewhat different form in the address that he delivered in 1876 on assuming the duties of the chair of the theory, history, and art of education in the University of Edinburgh. Vindicating the establishment of this chair, he said : "It makes it possible to institute for the first time in our universities a faculty of education, just as we may be said already to have a faculty of law, theology and of engineering."[1] No foreign country has yet taken steps in this direction, and it has been left to the United States first to realize the suggestion of a faculty of education, or, more accurately perhaps, of a college for teachers.

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[1] Positions wherein those primitive circumstances be examined which are necessary for the training of children, etc. London, 1851, chap. xli.

Instruction in the science and the art of teaching was included in the university scheme that was proposed for Columbia college in 1858, but then without avail. Again, President Barnard urged the same plan, which he now worked out much more fully, upon the trustees of the same college in 1881 and 1882. The next step forward was the organization in New York city, in 1888, of Teachers college, which was chartered the following year. While this college was organized outside of the Columbia system, it was still under the control, in great part, of Columbia men, and was loosely affiliated with the college. The last step in the evolution came in 1898, when Teachers college was made an integral part of the educational system of Columbia university.[2] The president of Columbia is president also of the college, and the university professors of philosophy and education and of psychology are members of its faculty, while the college is represented in the university council by its dean and an elected representative. The college, however, continues its own separate organization, having its own independent board of trustees, which is charged with the sole financial responsibility of its management.

Teachers college is the professional school of Columbia university for the study of education and the training of teachers, ranking with the schools of law, medicine, and applied science. The university accepts courses in education as part of the requirement for the degrees of A. B., A. M., and Ph. D.; while graduate students who prefer to devote their entire time to professional study may become candidates for the higher diploma of the college. The college diploma is conferred upon students who have successfully completed some one of the general courses, and a departmental diploma upon those who have fitted themselves for particular branches of school work. Undergraduate students of Columbia and Barnard colleges may, if they desire, obtain the diploma of Teachers college at the same time that they receive the degree of bachelor of arts. The Horace Mann school, fully equipped with kindergarten, elementary, and secondary classes, is maintained by Teachers college as a school of observation and practice.

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[1] The Training of teachers, etc., London, 1882. See inaugural address delivered on the occasion of the founding of the chair of the institutes and history of education in the University of Edinburgh, S. S. Laurie.

[2] See an Article "The Beginnings of Teachers College," by Dr. Nicholas Murray Butler, in *Columbia university quarterly*, September, 1899.

These are the undergraduate courses: Secondary course leading to the degree of A. B. and the college diploma; general course leading to the college diploma in elementary teaching; general course leading to the college diploma in kindergarten teaching. Then there are several courses leading to the college diploma in art, domestic art, domestic science, and manual training. Candidates for the first of these courses must be either college graduates or candidates for the degree of A. B. in Columbia university. There is a combined course of study prescribed for the degree of A. B. in Columbia university and the diploma of Teachers college; but particulars must here be omitted. Graduate work is also well developed. For the year 1898–99 the teaching staff counted more than sixty persons.

New York university school of pedagogy, established in 1890, aims to furnish graduate work equal in range to other professional schools. The school is an organic part of the university, having its own dean and faculty. More definitely, its aim is declared to be to furnish thorough and complete professional training for teachers. The plan of the school places it upon the same basis as that of the best schools of law, medicine, and theology. The work is of distinctively university grade, and graduates of colleges and normal schools, and others of equal experience and maturity, may find in this school opportunity for the thorough study of higher pedagogy. In 1898–9, the instruction was distributed in four major and eight minor courses, viz.: History of education; physiological and experimental psychology; analytical psychology; history of philosophy; physiological pedagogics; elements of pedagogy; comparative study of national school systems; æsthetics in relation to education; sociology in relation to education; institutes of pedagogy; ethics, school organization, management, and administration. Special facilities for research are offered in the seminaries. The degree of master of pedagogy is conferred upon candidates who have completed five of the foregoing courses, three of them majors; the degree of doctor of pedagogy, upon candidates who have completed the four major and five of the minor courses. The school does not attempt undergraduate work. There is no practice teaching, but opportunity is given for the critical observation of selected schools. The staff includes ten persons.

Clark university, opened in 1889, has given much attention to education from the first, and the subject has now been made a sub-department in the department of psychology, in which a minor may be taken for the degree of doctor of philosophy. The work is intended to meet the needs of those intending to teach some other specialty than education but who wish a general survey of the history, present state, methods, and recent advances in the field of university, professional, and technical education, and of those who desire to become professors of pedagogy, or heads of instruction in normal schools, superintendents, or to become professional experts in the work of education. The program for the year 1899 included (1) child study, educational psychology, and school hygiene; (2) principles of education, history of education and reforms, methods, devices, apparatus, etc.; (3) organization of schools in different countries, typical schools and special foundations, motor education, including manual training, physical education, etc., moral education, and ideals. Great stress is placed on original investigation. The president, Dr. G. Stanley Hall, has been from the first the leader of the child study movement in the United States. "The Pedagogical Seminary," edited by him, is the organ of the educational department of the university. It is an international record of educational research and literature, institutions and progress, and is devoted to the highest interests of education of all grades. One of its most valuable features is its digests of meritorious contributions to educational literature.

The department of pedagogy in the University of Chicago has as its primary aim to train competent specialists for the broad and scientific treatment of educational problems. The courses fall under three heads: Psychology and related work, educational theory, and the best methods of teaching the various branches. Stress is laid upon the relation of pedagogy to other subjects, and courses are offered in the proper departments in which the methodology of such subjects is employed. For the year 1898–99 such courses were offered in history, sociology, and anthropology, in the English, German, and Latin languages and literatures, in mathematics, and in geology. The courses in educational theory are preceded by the introductory courses in psychology, ethics, and logic, given in the department of philosophy.

The University of Chicago has also established a college for teachers on a somewhat novel plan. This institution, which was founded in October, 1898, is an outgrowth of the class study department of the extension division of the university. It is a "downtown" college, and aims to provide instruction of high grade for busy people; or, more definitely, "for any and all persons qualified to do the work, who are so engaged by other imperative duties as to make continuous attendance at the other colleges of the university impracticable."[1] The work of the new college is of the same grade as that of the other colleges of the university. Students may take much or little, according to their ability and wishes, but when the requirements have been met, the work is crowned with a degree. The school aims at scientific, cultural, and disciplinary results. It distinctly denies that it is in any sense a normal school. Moreover, while it is not exclusively a teachers' school, the college, nevertheless, emphasizes instruction suitable to the special needs of teachers sufficiently to justify its name. The distinctively pedagogical teaching, like all the teaching, looks to knowledge and scientific training rather than to practical applications. At the close of its first year of life the outlook is an encouraging one.

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[1] "The University of Chicago College for Teachers," in University record, vol. III, No. 31.

The University of Wisconsin school of education is an expansion of the former department of education. The four main lines of instruction are the history, the philosophy, the science, and the practice of education. The school aims to afford practical and healthful instruction to intending teachers, professors, principals, and superintendents, and to those students who desire to pursue studies and investigations in the science of education.

A wealthy and public-spirited lady of Chicago, Mrs. Emmons Blaine, has declared her purpose to establish and endow a teachers' college of high grade in that city, and the initial steps have already been taken to carry out her plan. The institution will be under the direction of Francis W. Parker, formerly of the Chicago Normal School.

Besides the agencies for the training and cultivation of teachers that have been enumerated, there are still others that may be described collectively as miscellaneous in their character. Particular reference may be made to the numerous associations, societies, institutes, and clubs for teachers of various degree that overspread the land. No other country in the world, it is probable, is so well furnished with these purely voluntary means of education. They contribute not a little to the knowledge and cultivation of teachers as well as to the elevation of educational ideals and the formation of popular opinion. Then there are the teachers' libraries, local and general. The organization of such libraries has sometimes been carried to such perfection that books of both a special and a general character are practically sent to the teacher's own door. New York, for instance, provides at state cost for the necessary expenses of a state school library for the benefit and free use of the teachers of the state, to be circulated under such rules and regulations as the state superintendent may establish. This law puts at the use of the teachers of the state an excellent collection of books on the simple and easy condition that they shall pay the postage on their return to the state capital.

The certification or licensing of teachers in the public schools of the United States may almost be called a burning question. To protect the schools or the public against unworthy persons without burdening deserving teachers, is the problem to be solved. Much of the difficulty attending the solution of the problem arises from the highly complex form of the American government, and the emphasis that is everywhere placed upon local as opposed to central authority. Education is a state, not a national function; moreover, the states, in accordance with the popular genius, vest this power primarily in local authorities, sometimes town or city boards, but more frequently county boards of examiners. In recent years many of the states have set up state examining boards, empowered to issue state certificates valid either for life or for a term of years. None of the states, however, have abandoned the earlier local boards, which still examine the great majority of school teachers. In Massachusetts, which is one of the states that have never adopted the new plan, there are three hundred and thirty-three boards authorized to grant certificates, not one of which, however, is legally valid beyond the town or city in which it is issued. Many teachers, and these generally the best teachers, naturally look upon the existing system as being unreasonable and burdensome, and insist that a wider validity shall be given to their certificates when they have once proved their ability to teach. Sometimes the evils of the system are mitigated and the system so rendered less intolerable through the legal or practical recognition of the principle of comity, whereby the attestation of one examining authority is accepted by other such authorities. Still no satisfactory solution has yet been reached.

At a meeting of college and university professors of education held in Washington, D. C., in July, 1898, a committee was appointed to investigate and report upon the certification of college and university graduates as teachers in the public schools. This committee has finished its work and published its report, which consists, in part, of an exposition of the existing laws and usages so far as the certification of such graduates is concerned, and in part of the recommendations of the committee. It will be germane to the subject of this monograph to include in it the salient features of this report.

The committee declares unqualifiedly in favor of the states' making special legal provision for certificating college and university graduates in the public schools, whereby they shall be exempted, as far as may prove to be consistent with the best interests of the schools, from the ordinary examinations. This exemption should be made only in the cases of graduates who have complied substantially with the following requirements:

(1) The graduate shall have received a good college education terminating in a bachelor's degree. (2) He must, also, have pursued a limited number of studies, not more than two or three, of a congruous nature with more than ordinary thoroughness — that is, have had a degree of specialization. (3) His certificate should not cover all the studies of the high school course, but only those to which he has devoted special attention, as just explained. (4) The next condition is that the graduate shall have pursued, in the college or university, or in some school having college or university affiliations, the study of education. (5) He

should also take one or more teachers' courses in the branches of knowledge which he has studied most thoroughly, such courses to include not merely the academical elements of the subject, but also its pedagogical elements. (6) The committee also recommend that the candidate shall, if possible, have had some instruction in the school of observation or practice. The final conclusion is that the college or university graduate who has fulfilled these conditions and who has good health, good morals, and good personal cultivation should, without examination external to the college or university, be certificated to teach for a period of at least three years; and if at the close of this probationary term he has shown himself to be a successful teacher, then he should be certificated for life, provided he expects to continue in the work. In the case of graduate students the committee urges that they also should be certificated without formal examination if they make education either a major or minor study and also take one or more teachers' courses as in the case of the ordinary graduate.

Perhaps the most important paragraph of the report relates to the study of education, and may be thus summarized: This study should be elective, and should count towards a student's degree as other elective work counts; education, as a study, is just as informing and disciplinary as history, philosophy, sociology, or politics; the minimum to be required should be about twelve hours a week for one semester. It should begin in the second semester of the junior year, or not later than the first semester of the senior year, and continue to the end of the course. Part of the work should be prescribed and part elective: the prescribed work to include one scientific and one practical course. The scientific course should be built up on the basis of some knowledge of physiology, psychology, logic, ethics, æsthetics, and sociology, and should present an outline view of the facts and principles of education; the practical course should embrace general methodology, some leading special methodologies, as the language-arts, history, science, school hygiene, school practice, and management, the common facts of school law, the general features of an American state school system, etc. The electives would naturally be made from a group of subsidiary courses bearing some of the following titles: The history of education in its various phases; a comparative study of educational systems; study of children; the sociological relations of education; the relations of pedagogy to other sciences and arts; school superintendence; the history of school studies and their value as educational instruments, etc. The particular election or elections would depend on the student, his preparation and his plans for the future.[1]

At present this is an ideal scheme, although most of its features are met with in different institutions; but it does not seem extravagant to expect that it will influence future practice. It may be added that the committee thinks that the realization of inter-state comity on a large scale must depend upon the improvement and elevation of existing standards.

It is not altogether easy to conceive the enormous growth that education has made in the United States since the beginning of the educational revival. Unfortunately, we have no statistics that exhibit it on a national scale. We shall, however, close the century with an annual common school expenditure of more than $212,000,000, with more than 426,000 teachers, and with more than 15,500,000 pupils in the schools. There is no question as to the greatest defect of this education. We must accept in good spirit the judgment of the German critic, Dr. E. Schlee, delivered the year of the Columbian exposition.[2] "If in every office the chief factor is the man, and in school the teacher, we have come to the weakest point in the American school system — professional teachers are wanting. That is to say, most teachers are deficient in the requisite scientific and pedagogical preparation for their vocation." But it must be remembered that this great system is the work of but sixty years. It has been impossible to train teachers as fast as the schools required them; the need has constantly outrun the public ability, and still more, perhaps, the public ideals. Under the circumstances, no people could have made the supply equal the demand. Still, much has been done to prepare teachers for their work, if not as much as should have been done. The agencies that have been employed, and are still employed, are of a miscellaneous character, evincing plainly enough the versatility, not to say shiftiness, of the American mind. The system is marked perhaps by what John Stuart Mill once called "the fatal belief" of the American public "that anybody is fit for anything." The national inventiveness appears particularly in the efforts that have been made to supply the deficiencies of non-professional teachers. The success that has attended these efforts has tended to produce satisfaction with mere temporary expedients. Necessity has been the mother of inventions that continued after the necessity had ceased. The fundamental lack is education — solid, sound, thorough education. Of agencies that minister to discursive culture, we have more than enough. Still, what is said above of teachers' institutes may be said of these agencies taken together — they have done far more good than evil.

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[1] The report is found in the School review, Chicago, June, 1899.

[2] Report of commissioner of education, 1892–93. Part II, chap. III.

Our system undoubtedly appears very imperfect and inadequate to foreign critics who are acquainted with the more highly organized systems of France and Germany; but it is not invidious to say that such critics are not always well prepared to appreciate all the features of our civilization. In the present instance, they may safely accept our assurance that, however impossible our system might be in continental countries, in America it works much better than they can readily conceive. This is not said to conceal defects, which are freely admitted, but only to secure recognition for undeniable merits. Whether new features will be added to the system, or whether old ones will be lopped away, are questions that the future must answer. For the present, it is reassuring to know that the conviction is constantly gaining ground that, whatever is done at its circumference, the system must be strengthened at its center. The most competent judges will not dissent from the proposition, that the brightest promise of the future is seen in the work, present and prospective, of the colleges and universities of the country.

At the close of this monograph, it may not be amiss to remark that it presents only a general survey of its subject. All classes of institutions that deserve recognition have, it is believed, been characterized; but the characterizations have necessarily been brief. In selecting the institutions that have been specifically named, the sole purpose has been to select those that are typical of their classes. The further observation may be added that, of the 436 universities and colleges reporting to the commissioner of education technical, professional, and special courses of study for the year 1896–97, 220 reported courses in pedagogy.

Additional authorities — An historical account of the State Normal College at Albany, N. Y., etc.; Circular of the New New York State Normal College, Albany, 1899; Columbia University in the city of New York, Teachers college, announcements, 1898–99, and 1899–1900, and President's Report, 1898–99; Columbia University in the city of New York, Division of Philosophy and Psychology, announcement, 1898–99; New York University, School of Pedagogy, announcements for the tenth year, beginning Sept. 27, 1899, etc.; The School of Pedagogy, New York University, its aims and opportunities to pupils; Manual of the Normal College of the city of New York 1897; Twenty-eighth annual report of the Normal College of New York, for the year ending December 30, 1898, etc.; Courses of study and rules for the government of training school for teachers, Brooklyn, N. Y., 1897; John Fulton, Memoirs of Frederick A. P. Barnard, etc., New York, 1896, chap. XVII; Martha's Vineyard Summer Institute, 1899, Twenty-second annual session; Clark University, etc., Register and eleventh official announcement, 1899; University of Wisconsin,

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DEPARTMENT OF EDUCATION
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MONOGRAPHS ON EDUCATION
IN THE
UNITED STATES

EDITED BY
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9

SCHOOL ARCHITECTURE
AND
HYGIENE

BY

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THIS MONOGRAPHS CONTRIBUTED TO THE UNITED STATES EDUCATIONAL EXHIBIT BY THE
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SCHOOL ARCHITECTURE AND HYGIENE

The school house is an infallible index of the educational status of the community in which it is located. It stands at once a monument and a history of the mistakes or successes, the ignorance or wisdom, the poverty or opulence, the parsimony or generosity of the people who have erected and maintained it. From the forbidding shanty on the country cross roads in the backwoods to the palatial edifice in the most enlightened city, this building tells a story in letters so plain and so unmistakable that "he who runs may read." The school house teaches not alone a lesson in architecture, but lessons in sanitation, in engineering, in æsthetics, and in pedagogics. The building from the school-room furnishings and devices for teaching to the finishing touches of the exterior, is a composite resultant of the work of teacher, superintendent, school director, engineer, and architect.

The growth of the American school house is commensurate with the growth of American education. From the four bare walls where the three R's were formerly taught to the modern laboratory or art room in which are combined the appliances for the best teaching and for the expression of the best taste, these material evidences epitomize the educational situation in our country. The consideration of school house building, therefore, becomes a question of the highest importance.

The necessary features to be secured in building a school house named in the order of their relative importance are, 1. Shelter; 2. Adequate space; 3. Warmth; 4. Ventilation; 5. Light; 6. Interior furnishings and appliances; 7. Beauty.

The ends to be attained in all of these features are essentially the same for all types of buildings from the one-room country school house to the most expensive structure built in the city for high school or college purposes. The application of the principles involved in securing these ends in buildings of every variety of cost and function requires a vast diversity of treatment.

In all of the above-named features of a building, the three ends to be sought are hygienic, economic, and mechanical. In all cases alike, it is mechanical skill and ingenuity working with the means at their command to reach the best hygienic results. The features requiring the greatest skill are warming and ventilating, and the general architectural effect given to the building in its construction and in its location.

In his book on "The Warming and Ventilation of School Buildings," the writer has treated somewhat in detail the principles underlying the subjects of the present essay, and it is his object here to outline in the briefest manner to what extent these principles have been put into practice in the school houses of the United States. In order to do this, he has thought best to select some of our best buildings as examples representative of the various types, pointing out their merits and calling attention to their defects, and suggesting where improvements could be made. To fully treat in a thorough and scientific manner the principles involved in building a school house is beyond the scope of this article. The object here is simply to embody into the discussion of a few types the results of the best theory as exemplified in the best practice.

THE COUNTRY SCHOOL HOUSE

The majority of the children of the United States go to school in the country. The country school house, therefore, deserves its share of attention. On account of economic conditions, the instruction must be carried on in a single room of sufficient size to accommodate the children. In many of the states the unsanitary conditions usually prevailing in rural districts have been partially overcome by proper oversight on the part of intelligent supervisors.

As economy is the chief end to be considered in most rural districts, a plan by Wm. P. Appleyard and E. A. Bowd (Plate I) is selected as meeting a sufficient number of the necessary requirements to form an intelligent basis of treatment.

While this house can be built for about $600, it presents a neat and attractive appearance. Its exterior reveals the touch of the architect's hand, and the educational influence of such a building when located on a well-selected site can hardly be overestimated.

The building is 24x32 ft., outside measurement, and comprises a school room, a fuel room, a wardrobe for boys, a wardrobe for girls and a porch; it will furnish shelter for thirty pupils in single seats, or thirty-six pupils in double seats. The single seat should always be provided where the rigor of economy does not positively forbid it. The single seat is an American characteristic, and its moral influence on the pupils in the freedom it gives them from too close proximity, as well as its assistance to the teacher in maintaining order, commends it to universal use.

There remains very little to be said about the proper seat to be provided in furnishing a school room. The seats now on the market and furnished by all dealers in school furniture are, in the main, models of convenience, comfort and finish. It certainly stands to the credit of this country for having invented and brought into almost universal use the best seat which any country has produced. These seats are graded in size to suit the age of the pupils. A room improperly seated in the United States is at the present time only chargeable to the grossest ignorance, indifference or neglect.

The heating is accomplished by means of a stove placed in one corner of the school room. The time-honored practice of placing the stove in the center of the room has given way to a better knowledge of the principles of heating and ventilating. The function of the stove, when the demands of economy require its use, is the heating of the room by convection, not by radiation. While the radiated heat from the sun or from an open fire is most cordial and beneficial, the reverse is true of radiated heat from a stove. The air in a room can be heated almost as quickly by a stove placed in one corner as in the center and by enclosing it in a jacket of sheet metal the parching radiation is intercepted. In the present case, the stove serves the purpose both of warming and of ventilation.

The diminished specific weight of air when its temperature is raised and its tendency therefore to rise lessened furnishes the basis for all methods of so-called natural or gravital ventilation.

In this building, the chimney is divided into two parts, one for smoke and the other for a foul air vent. A fresh air duct leading from the outside of the building to an opening directly under the stove supplies the fresh air. As the air in the room becomes heated, it has a tendency by its specific lightness to rise through the foul air vent in the chimney, its place being constantly supplied by the cold fresh air as it flows through the fresh air duct becoming heated as it passes up between the stove and the zinc jacket enclosing it.

The foul air duct would become still more efficient if the chimney instead of being partitioned had simply contained the stove pipe extended to the top. A heavy galvanized iron pipe should be erected and securely fastened by stays anchored to the brickwork when the chimney is built.

The chimney for a single room should have an interior cross sectional area of at least five square feet, and the pipe should be placed in the center of it. By this means the whole chimney not occupied by the pipe becomes a vent or aspirating chimney in which an upward current is maintained by the heat from the pipe. The foul air reaches this vent through a duct leading from a box beneath the teacher's platform. The part of the floor under the platform is lowered to form the under side of the box while the top of the platform forms the upper side. The air finds access to this foul air box through openings or registers placed in the riser of the platform.

The total area of these registers, and also the cross sectional area of the fresh air duct should be about equal to that of the chimney. A throttle damper should be placed in the fresh air duct so that the air may be regulated in severe cold weather or retained in the room during the night to prevent its becoming too cold. The exit registers should also be closed at night.

In order that the air may not be overheated as it passes the stove, and thus rendered unfit for breathing, the stove should be large, so that the increased area of heating surface may obviate the necessity of extreme overheating. Besides, the danger from overheating the air by highly heated surfaces, it should be remembered that iron when raised to a red heat becomes pervious to the poisonous gases of combustion. One of the products of coal combustion is carbon monoxide (CO), a very poisonous gas, which, if allowed to escape, will contaminate the air.

The method of conveying the foul air into the aspirating chimney shown in Mr. Appleyard's plan has been modified in various ways in different localities. In a plan drawn by Edbrook & Burnham, architects, Chicago, used in some of the school houses in Wisconsin and Illinois; and in a similar plan drawn by Hackney & Smith, architects, Kansas City, Mo., and used in some of the school houses in Missouri, the exit registers are multiplied and placed in the floor near the base board at intervals around the room. The foul air gathering "box" thus becomes the entire space between the floor and the ground below, the opening into the chimney being below the floor, as in the former case. A sanitary objection to this arises in the fact that in warm weather, when the inside is cooler than the outside air, the draft is liable to be reversed and the "ground air" under the house drawn up into the school room.

In another modification, shown in plans drawn by John R. Church, Rochester, N. Y., the numerous exit registers are placed in the base boards and open into ducts rising in the walls to the attic, where they converge and unite in an opening into the aspirating chimney. A mechanical objection to this arises in the interference with the free movement of the air imposed by the large amount of friction in numerous small ducts.

There is really nothing gained by multiplying details in conveying air from a room. The simplest is always the best way. An ordinary wing register placed in the vent flue just above the floor is probably a better means of conveying the foul air than any of the processes just mentioned. It is simple, economical, direct and frictionless.

It should be remembered that the position of exit registers near the floor is here recommended, not because this is the ideal position for them, but because it is necessary in a room heated by a stove to trap the air in the upper part of the room, and to keep it from escaping before it has been utilized. This position of exit registers is also necessary with all systems of heating which have heretofore been in use in school-house building, but unnecessary in a stage of pneumatic engineering which we are approaching, reference to which is made on a subsequent page.

A still better means for removing the foul air is the open fireplace. This is used in a few districts in some of the northern states. It is to be regretted that the virtues of the open fireplace in school buildings have not been more widely recognized. Whether considered from a hygienic, economic or mechanical standpoint, this old-fashioned but neglected device is much to be commended. When it was discovered that the open fire does not furnish an adequate means of warming in severely cold weather, it gradually gave way to more effective modern devices; its value as a means of ventilation, however, was not sufficiently appreciated to save its almost total abandonment. When combined with a stove so as to receive into it the smokepipe, the open fireplace chimney is not expensive. In moderate weather when little heat is required, the open fire would meet the demands of warming and fulfill all the requirements of perfect ventilation.

The strong, upward draft through an open fireplace chimney when the outside is cooler than the inside air, even without fire in the grate, is a matter of common observation. Every country school house should have an open fireplace. A small fire kept burning would ventilate the room, supplement the heat of the stove, and produce by its cheerful, radiating effect a wholesome influence on the pupils.

As the radiation from an open fire does not warm the air except secondarily from the solid surfaces of objects intercepting the rays, the open fire cannot be employed for warming except in mild weather; but its other advantages here mentioned make it a most profitable investment.

The lighting of the house shown in Plate I, while ample in its aggregate, has the defect common to most schoolhouses — that of light on two sides. A school room designed for academic purposes should be lighted on one side only. The length of the room should exceed its width by a ratio of about 3 to 2. While this ratio may vary within reasonable limits, the width should not be greater than twice the clear height. The windows on one of the longer sides should extend to the top of the room, should be well shaded, and as numerous as architectural requirements will admit.

The hygienic necessity of protecting the eyes of the pupils by admitting the light at the left or the back has been universally recognized, but a like consideration for the rights of the teacher has been generally neglected.

In a room lighted on two adjacent sides, either the teacher or the pupils must face the light, and the teacher by common consent has been made the victim. This, more than all other causes combined, is hastening the premature weakness of the eyes of our teachers. In country school houses, the light is commonly admitted on opposite sides, but this is objectionable on account of the disagreeable and injurious effects of cross lighting. The necessity of lighting on one side only is recognized in common practice in Germany, but it has been generally ignored in the United States of America. The writer is aware that thoughtful objections have been urged in this country against limiting windows to one side of class rooms — that the practice in Germany arose from the possibility there of admitting light from the north only, and that when admitted from the south, east or west, the direct rays will dazzle the eyes of the pupils by falling directly upon them and upon their work.

While these objections have some weight, they will not stand when the facts are carefully considered. If there is an objection to windows on a side which admits direct sunlight on certain hours of the day, it is not plain how that objection could be removed by placing windows on two such sides.

When windows are distributed on two sides of a nearly square room, as is the case in the conventional corner room in most buildings of more than one room, neither side alone is sufficient to light the room when curtains are drawn on the other side. There are two reasons for this : First, the window area is insufficient, and second, the distance across the room of the common square form or lengthwise in rectangular form is greater than the established standard for the height of windows.

The objection to rectangular rooms lighted exclusively by numerous windows on one of the longer sides may be — even though this side be on the south — entirely removed by the proper use of curtains. The curtains for such a room should be of white muslin of light weight mounted on spring rollers. A room 24x32 ft. with four large, full height windows in one of its longer sides, facing south, will, with such curtains drawn clear down, be fully lighted, when the sun is shining, with a soft, subdued, well-diffused and ample light. This has been fully demonstrated by the writer who used such a curtain for several years in a large physics demonstration room lighted on the south only by two very large windows instead of the four, five, or even six which it is easy to obtain in a building planned on hygienic principles.

The common practice of admitting light at the back of the pupils and into the face of the teacher cannot be too strongly condemned. It is wholly unnecessary, false in theory, and pernicious in practice, as the ruined eyesight of thousands of teachers can attest.

The lighting on one side only is accomplished in the country school house shown in Plate II, drawn by C. Powell Karr, architect, New York city. The estimated cost of this house is $1,200, and it may well stand as a model of buildings of this class. The school room is well proportioned, 24x33 ft., and with its seven windows on one side and a 14 ft. stud, it is amply supplied with direct and thoroughly diffused light.

The stove with its air jacket is properly located in one corner. The chimney is large and contains a properly placed smoke pipe in the center. However, had the lower part of this chimney been converted into an open fireplace, the economic and hygienic ends would be still better served. A coal room and a teacher's room add to the convenience and symmetry of the building.

A separate entrance with lobby, cloak room and hall is provided for the boys and girls — a matter of no small importance in a country school.

The back doors opening out of the halls make a proper separation between the girls' and boys' walks to the outhouses. These walks, let it be here noted, should always be covered and the sides shielded by lattice work.

One improvement is here suggested in the arrangement of the cloak and coat rooms. In order to secure light and ventilation, they should be changed from the inner to the outer wall of the halls where a window could be added to furnish the necessary light. While window ventilation is not generally recommended, its objection is less in a cloak room than elsewhere.

This house is a model of neatness and, all essential points considered, may stand as a type of the best of its class.

THE TWO-ROOM BUILDING

In small hamlets where the school population necessitates adding another room, new problems present themselves. As the hygienic requirements are the same for all rooms, these problems are chiefly mechanical.

A two-room building answering all economic and hygienic requirements could not be found, but the plan shown in Plate III, drawn by Warren R. Briggs, architect, Bridgeport, Conn., is a fair representation of the best that has been accomplished.

This building has two rooms, two hat and coat rooms, and a basement. It is estimated to cost $2,000. The basement is built of stone, and the upper part is frame. The architectural treatment gives the house a neat and attractive appearance.

As we leave the one-room building and pass to those having two or more, economy as well as convenience suggests the centralization of the heating and ventilating apparatus. The stove is enlarged, placed in the basement, and becomes a "furnace." The cold air duct conveying the air to the source of heat between the furnace and enclosing jacket is substantially the same as for the one supplying the stove in the single room, except that it has double the cross-sectional area. The jacket instead of being open at the top is closed with branch pipes leading to the rooms.

In Mr. Briggs' plan, the chimney and air ducts are situated centrally as they properly should be. The warm air is admitted near the top of the rooms through the inlet ducts and is supposed to go out at the outlets near the floor. This it will do only when there is a considerable difference between the inside and outside temperature, there being no provision made to heat these outlet ducts. By making open fireplaces of these ducts, they would be converted into effective aspirating chimneys and would also serve for warming the rooms in mild weather.

In the method of heating here shown, we see in embryo the "hot air" or "indirect" system which seems to be the best means of warming small buildings with comparatively few rooms, in which a steam or hot water plant cannot be afforded, and where the destination of the hot air is not far from the furnace. The furnace, however, in small buildings should be large that the necessity of overheating may be obviated.

The fireplace before suggested should be heated only in mild weather. In very cold weather it causes unnecessary waste of air as well as of fuel. In fact, in extremely low temperatures, ventilation generally takes care of itself unless the room is very close. This is of course due to the considerable difference in atmospheric pressure between the inside and outside walls of the room.

The rooms in the building under consideration are well proportioned — 25x35 ft.— and are well conditioned for exclusive lighting on the longer sides. This would provide a place for the teacher's platform, in the room shown on the left side of the plan, at the end opposite the entrance, throwing the light at the left of the pupils. The present position of the platform sacrifices valuable space and makes the teacher face the broadside light while seeing the faces of his pupils in shadow. The changes required by these suggestions while of the greatest importance are mechanically insignificant and simple.

Excellent as is the present plan when generally considered, it is too expensive for the ordinary hamlet district which would have to forego the luxury of a basement. To meet the economic conditions in such cases, the writer suggests a plan shown in Plate IV.

This plan gives well-lighted wardrobes with a convenient arrangement of doors.

The heat is furnished by stoves placed in the corners of the rooms. The angular position of the chimney makes it serve well the purposes of both rooms. The position of fresh air and smoke pipes are shown by the dotted lines.

The teacher's rooms, which are a convenience for many purposes, may be dispensed with where greater economy demands it.

THE THREE-ROOM BUILDING

With each addition to the number of rooms in a building, the mechanical difficulties incident to providing all the hygienic requirements increase. To supply plenty of pure, warm air to every room, to conform to the requirements of lighting and seating, to provide a well-lighted and ventilated coat and cloak room adjacent to each school room, to have ample and well-lighted corriders, to plan with a view to beauty of design, and withal to keep within the bounds of economy, requires a profound knowledge of principles, practical skill and sound judgment.

As an objective basis for discussion, another building—Plate V—drawn by Mr. Briggs, has been selected. Although not ideal, this house possesses many excellent features.

An examination of the plan reveals the same defect in lighting two of the rooms that was pointed out in the two-room building,—a defect which is easy to remedy by blinding the windows on one end and moving the teacher's platform. The only other defect noticeable in this plan is the use of the main hall for coat and cloak rooms. In the present case, however, this defect is not without compensating advantages. It gives freedom, room, and publicity in the putting away and the taking down of wraps, and it economizes space.

The objection which usually prevails against the hall as a place for wraps is the odor which is liable to come from the drying of wet outer garments. This objection, however, is partly answered in the present building by the position of the heating and ventilating chimneys, which secures good ventilation for the hall, and thus prevents any currents of air from the hall into the school rooms.

The chief merit of this building is its centrally located, compact and ample heating and ventilating apparatus. The position, size, and quality of this breathing apparatus is as important in a building as are corresponding features in the lungs of an animal. The central location is economical and gives a proper balance to the distribution of air. The hot air pipes rising inside the large aspirating chimney produce an upward current which draws the air from the rooms connected with it through the registers. The cold air passes in through the fresh air duct in the basement, is heated by the furnace, and rises between the furnace and jacket to the pipes leading up through the large chimney to the upper part of the rooms. The exit registers placed near the floor open into the chimney.

The building has an artistic and stable appearance. Built of stone or brick, the estimated cost is $6,600. But a frame structure, providing the same conveniences, could probably be built for $5,000.

It will be unnecessary to give details of plans for a four and six-room building. Duplicating the plans for two rooms will give a good plan for a four-room building; and duplicating the plans for three rooms will give an equally good one for a building of six rooms. Staircases could easily be provided for by enlarging the halls, and this without sacrificing any of the essential features.

THE EIGHT-ROOM BUILDING

In accordance with the established grading of primary and grammar schools in this country, a building of eight rooms — one for each grade — is typical of the complete unit for this class of school work, and is the prevailing type in the small cities and towns throughout the United States. For this and other reasons now about to be mentioned, a careful consideration of this building becomes highly important.

The method for warming a building is to be determined largely by the number of rooms to be warmed and by the means at the command of the builders. The proposition to establish a steam plant for a one-room country school house, would be about as absurd as one to warm a seven-story building covering a whole block in a large city with hot air furnaces in the basement. Considering the velocity at which air moves through ducts, its rate of cooling and the friction which it encounters in reaching its destination, all methods of conveying air have their proper places and their limitations.

In the growth of the typical school house from a one to a fifty-room building, the stove, the hot air furnace, the gravital steam plant with its "direct" and "indirect" radiation, and the forcing fan all have their appropriate places. To ask which of these means is the best is much like asking whether it is best for an animal to breathe by absorption, by spiracles, by gills or by lungs. It all depends upon the building or upon the animal. There is a time when the stove gives way to the furnace, the furnace to steam pipes alone, and steam pipes alone to steam pipes supplemented by mechanical power.

It is in buildings of the capacity of the one under consideration that the battle between the dealers in hot air furnaces and the steam fitters is usually waged, and the arguments commonly employed by both are as amusing to the scientist as they are distracting to the average school director.

It may here be said to the credit of both factions that in buildings of this size either method will answer the purpose, but the writer wishes to give as his opinion that, in constructing an eight-room building, the time has come for the installation of a steam plant.

In order to secure the proper ventilation, the radiation should be in the main "indirect;" *i. e.*, the steam pipes should take the place in the fresh air inlet duct of that formerly occupied by the furnace. Experience has proved that, in purely gravital systems, this should be supplemented with the direct radiation of a few radiators placed in the rooms under the windows. For a fuller discussion of the principles underlying these statements, see "Warming and Ventilation of School Buildings," chapters XVII and XVIII.

Another peculiarity which generally prevails in our eight-room buildings is that, situated as the rooms are in corners of the building, they are usually square and lighted on two adjacent sides. This error is ingeniously avoided in the fifth ward school building, Joliet, Ills., shown in Plates VI and VII.

By blinding the windows on one side and by increasing their number on the other, all the rooms are properly lighted. By an equally ingenious and artistic architectural treatment, the external appearance is made strikingly attractive. The halls are wide and well lighted, and a wardrobe having both school room and hall entrance is provided for each room.

The heating of this building is with hot air indirect, supplemented by direct steam radiation. The writer is informed by the school authorities of Joliet that it is not wholly satisfactory in severe weather, and that in their newer buildings they use both direct and indirect steam radiation. In order to secure sufficient directness for the hot air as well as a sufficiently large heating surface, it was found necessary to multiply furnaces and to widely distribute them to different parts of the basement. A single boiler could accomplish the results easier and more economically by supply steam for indirect — supplemented by direct — radiation.

The advantage of steam over hot air in such a building is seen in cold and windy weather when the impossibility for hot air to make its way against a strong pressure on the windward side has been so often and so fully demonstrated that argument is no longer necessary. Were the Joliet building heated and ventilated by a steam plant properly installed, the writer would not hesitate in classing it as a model of its class.

Plates VIII and IX show floor plans, basement and sectional view of an eight-room primary and grammar school house which deserve careful study.

This plan is the result of an attempt of William Atkinson, architect, to plan a school house possessing all the necessary architectural and hygenic features at a minimum cost — "to reduce the cost to its lowest terms." To do this, Mr. Atkinson selects what is known as the "mill construction" which consists of exposed iron I beams and timbers; and inside walls finished with faced brick instead of lath and plaster.

As to the economy of "mill construction," architects in general do not consider it less expensive than that ordinarily employed. The writer's observation of its use in a portion of the manual training high school of Kansas City, Mo., is that it costs slightly more; however, this is excellent construction and is growing in favor as shown by many recently-built houses in different parts of the country; it is strong, and being exposed the work must be faithfully done; it is especially recommended for laboratories and manual training workshops; it is "slow combustion" and when properly constructed looks well.

But it is not so much "mill construction" as other features which commend Mr. Atkinson's plan to careful consideration; its shape in simple parallelogram, and the small space occupied by halls are certainly elements of economy. The absence of a central hall makes it possible to heat and ventilate the house by means of one large chimney in the center and could be made a support for I beams if "mill construction" were used.

The position of the two halls confines the light to one side of the school rooms which are 24 ft. in width and 32 ft. in length. The five large windows evenly spaced and the proportion of the rooms makes the lighting ideal.

There are four well-lighted wardrobes on each floor, one for each room. Although these wardrobes are not in conjunction with the school rooms, they are near to them, and the inconvenience which their location would cause in dismissing the pupils would be small.

Another objection to the arrangement of the rooms is that all of the rooms cannot be reached from a common hallway, making it necessary to pass through certain rooms in reaching others. This is unconventional, but the objection is in reality insignificant when it is remembered that in a graded grammar school such passing is only occasional, and is chiefly confined to the movements of the principal in his visits to the different rooms; he could, when necessary, pass around on the outside.

We have now reached the proper place to consider the use of mechanical power as a means of ventilation. The necessity of this means in very large buildings is no longer a subject of debate, and is in use in all first class buildings in our large cities; but it is generally supposed that to buy an engine and fans for ventilating an ordinary eight-room building would be an expensive luxury. This is not only an error, but it may be safely said that the reverse is true — that it is expensive to do without engine and fans.

It is now generally accepted that 2000 cubic feet of air at normal pressure is needed for each pupil per hour if the requirements of perfect ventilation are met; but the mistake is commonly made that this amount is ever realized in systems of gravity ventilation where the air is moved by heating aspirating chimneys. It is not denied that this quantity of air per pupil can be moved by the gravity method; only that it is not done in practice.

The most careful estimates place the amount of fuel necessary for this purpose as about one-sixth in excess of that required to supply the heating. So that to ventilate a building properly by the gravity method more than doubles the cost of heating without ventilation. It is plain that the burning of such large quantities of coal in chimneys for the purpose of ventilation is expensive and — in view of a better way — wasteful.

Without burdening the reader with deduction formulas, it may be reliably asserted that every pupil in school may be supplied for a whole school year with 2000 cubic feet of air per hour at a power cost of less than one cent *per capita.* As this statement will be reluctantly accepted by many who are unfamiliar with such matters, a few words of explanation will not be out of place.

It should be remembered that in securing this result the exhaust steam is not wasted but is admitted directly into the radiators and utilized for heating the building. The engine simply converts enough of the steam as it passes through into mechanical power to run the fans. The drop in the temperature of the steam which this change causes is very small, so small indeed that it might almost be neglected, and it is this drop which supplies the entire expenditure for ventilation.

In the complete combustion of a single pound of average bituminous coal, there is liberated 13000 heat units; multiplying this by the mechanical equivalent, 872, we get 10036000 — the number of foot pounds of actual work of which one pound of coal is capable when the transformation takes place without loss; and this is precisely the case when a fan is run by an engine and the exhaust steam used for heating the building.

It will be interesting to note that this work, 10036000 foot pounds, when divided by 33000, the horse power per minute, gives 304 plus as the number of minutes one pound of coal will supply a horse power of work. One horse power is the work necessary to ventilate an average class room. We see then that one average sized school room can by this means be amply ventilated for five hours with only one pound of coal. At $4 per ton, this would cost one-fifth of a cent!

To move air at the same rate by burning coal in a ventilating chimney it would require for the same time an average of 100 pounds of coal; thus the cost of mechanical ventilation is only 1 per cent of that equally well done by gravity. To ventilate an eight-room building by mechanical means would require an eight horse-power engine and two three-foot fans. The cost of an installment would not exceed $350.

Twenty-one pounds per hour is the quantity of coal which careful estimates place as necessary to ventilate a school room containing 60 pupils. Now counting seven the number of fire months, 20 the number of days to the month, eight as the number of hours per day in which fire will be needed, $4 the price of a ton of coal, the cost of ventilating a building of eight rooms would be

$$\frac{7 \times 20 \times 8 \times 8 \times 21 \times 4}{2000} = \$376.32.$$

Any less expense would imply that the ventilation is imperfect and short of that which would be supplied by engine-driven fans. Thus, a power plant would pay for itself in one year in the saving of coal alone.

But there are other compensations incident to this system in the installation. It should be remembered that all ducts, both for fresh and for foul air, need to be only half the size of those for gravity ventilation; this is because of a corresponding difference in the velocity of the air in the two systems.

Again, the indirect radiating surface is at least one-third less, due to the higher steam pressure which may be carried to supply the drop in temperature which takes place on radiator surfaces when strong currents are passed over them.

Taking, then, the great daily saving in coal consumption, the trifling extra expense of first installation, and the certainty of the action and efficiency of the mechanical method, what remains to be said? Simply that in buildings of eight rooms and upwards, mechanical ventilation should take the place of gravital. Whether we consider the matter from an hygienic, economic or mechanical basis, this conclusion is inevitable—a conclusion which has been amply verified by the writer in the Kansas City manual training high school during the past two years (Sept., 1897, to May, 1899), and to which fuller reference is made in subsequent pages.

THE LARGE CITY WARD AND GRAMMAR SCHOOL

As cities grow in population and as the price of ground increases until in extreme cases it becomes necessary to mass together 2000 to 3000 children under one roof, the problem of meeting all hygienic and mechanical conditions becomes serious and difficult. It is here that the factor of economy must in the main yield to necessity, and the enormous expenditure of money is one of the inevitable means of solution.

The only standpoints from which the discussion of economy has any justification in these gigantic structures is in the question of height and in that of architectural treatment for æsthetic purposes. And even this is scarcely allowable in great cities where the class of construction is practically forced by the surroundings and where a certain measure of beauty is demanded by the artistic spirit prevailing in metropolitan "air." Notwithstanding that the cost per school room decreases with the number of stories, it requires with the best management about $5,000 per room to construct a building five stories in height in the city of New York. This is five times as much as would be required to secure conditions equally hygienic in the country, where the absence of plumbing and mechanical ventilation is compensated for in the unlimited playgrounds and free country air.

As to architectural effect, the writer believes that, considering the educational value of attractive surroundings and the relatively small cost of securing them when artistic skill is exercised, a due regard should be paid to the appearance of our school buildings.

When the architectural treatment is undertaken in a true artistic spirit—a spirit which makes art conform to utility instead of sacrificing it—the additional expense is well invested. It must, however, be confessed that there has been much useless expenditure in an attempt at meaningless ornamentation, resulting in a ridiculous exhibition of cheap filigree and hodge podge, devoid not only of the first elements of beauty, but often sacrificing utility and convenience.

The two extremes of expense in building a school house are found in the "factory" type, consisting simply of walls, windows and roof, without ornamentation of any kind; and in the "hospital" type, which comprises not only all modern improvements in sanitary plumbing, heating and ventilation, but architectural effect as well. When properly done, a sufficient architectural treatment can be given to a building with a moderate additional cost.

The following from Mr. Edmon M. Wheelwright, city architect, Boston, Mass., who has recently contributed to the "Brickbuilder" a most valuable series of articles on "The American school house," is so well said and so much to the point that the writer takes pleasure in quoting it:

"In designing a school house, the architect should strive to produce not an English college building, a French chateau, or a 'Romanesque' library, but a school house.

The practical requirements of the problem demand in most cases symmetry of plan, and in all cases lighting of the school rooms by wide and high windows. It is requisite that these windows should not have transom bars, and that either a flat roof or one of low pitch should be used. A high, well-lighted basement is also a requisite of a school house. The important rooms in the basement need ample windows, and a stud of ten feet is none too high for the proper installation of the heating apparatus. These requirements for the basement affect school house designing most radically.

"Such being the general requirements which most influence the general expression of our school houses, it will be found difficult to reconcile therewith features borrowed from the late English Gothic and the early English renaissance.

"Aside from economy in planning, which certainly leads to a balanced arrangement of rooms, the key to the external expression of a school house is the size and distribution and form of windows which experience has shown to be best adapted for the needs of a school room. This consideration of window treatment alone leads the architect who appreciates the economic and practical requirements of the problem to abandon picturesque treatments in a school house design and to adopt those suggested by the brick architecture of the Italian renaissance and by the Georgian work of England and this country. Sufficiently varied motives for the external expression of our school house plans can be found in these styles.

"* * * The architect to whom the designing of a school house is entrusted should accept the limitations imposed by the practical conditions of the problem. He should not seek to be 'original' or to gain the semblance of a structure, however beautiful in its own time and for its own needs, which does not meet the requirements of an American school house."

Mr. Wheelwright concludes that "under ordinary conditions, satisfactory architectural results may be obtained at an access of cost of not more than 5 per cent above that of the most 'practical' construction."

Public school buildings No. 165 (Plate X), and No. 20 (Plate XIII) are given as types of large city buildings, not because they are considered perfect models of architecture and construction for buildings of their class, but because they are excellent buildings and have been erected under the most trying and extreme conditions in the crowded parts of America's largest city.

These buildings are heated by steam radiation and ventilated by engine-driven fans located in the basement.

A mechanical error has been conformed to in having separate engines for the different fans instead of deriving all the power from a single unit and distributing it to the fans by electric motors. A 50 h. p. engine with direct connected dynamo of 40 k. w. capacity and two 15 h. p. motors would be more efficient, more easily kept in repair, and more up to date than the old method of furnishing an engine to each fan.

It would also have been better to have divided the mechanical movement of the air between the plenum and the exhaust methods. The vacuum-forming tendency given by an exhaust fan is always effective and greatly assists the incoming air making its way against friction. And in cases when the room becomes too warm and the fresh air is temporarily closed off, the exhaust fan acts like a fireplace and can always be depended upon. The power required in the two methods is about the same.

In these New York schools, the air supply is estimated to be 1800 cubic feet per hour for each pupil.

In planning very large buildings, two distinct types are employed, known respectively as the open court type and the letter H type. As to which it is better to choose, depends on the size, shape, and location of the building lot.

The New York school, No. 165, is a good example of H type, which is for the majority of cases the better for crowded localities. In these districts, it is necessary to build close up to the party line; this plan as seen in the present building makes it possible to build a solid blank wall on the party line with the windows all facing the open court which may be beautified, and the view is unobstructed by unsightly shops, smoky chimneys, and tenement houses.

The external treatment of building No. 165 shows an attempt to conform to the Gothic type of architecture. While utility has not, in this instance, been wholly sacrificed, and making due allowance for differences in taste, the writer is of the opinion that the high pitched roof, the pinnacles, and the pointed dormers are not the most appropriate form of decoration. The architect, Mr. C. B. J. Snyder, justifies the space occupied by the roof by using it for a gymnasium and for vent flues.

The building laws of New York require such a great thickness of wall in high buildings that much valuable space is gained in buildings over four stories in height by using the steel skeleton type used in the large office buildings; this makes it possible to reduce the thickness of the first story walls from 36 inches to 16 inches.

The introduction of manual training into the schools of the United States has been met in school house building by placing it in different parts of the house, from the basement to the attic. In building No. 165, the whole fifth floor is given over to manual and physical training and a gymnasium.

As manual training in grammar grades is still in a transitory and unsettled state, the provisions for it in school house building are as various and imperfect as is the knowledge concerning its place, amount, and nature in the course of study. In high schools, certain requirements and methods have become established making more clearly definite the functions of the buildings, as is pointed out further on.

There is a difference of opinion as to the necessity of an auditorium in a grammar school. In New York city, a demand for an audience room and a regard for economy are two conflicting ideas which seem to have met and compromised as shown in building No. 165 in sliding door partitions between all the rooms on the second floor of the central pavilion. An auditorium or general assembly hall in a primary and grammar school is of doubtful utility so far as the management of the school is concerned.

The lighting of building No. 165 is generally to be commended. All the rooms except those in the ends of the outside pavilions are lighted on one side only, by three very wide mullioned windows occupying nearly the whole inside wall space. It may be said of the end windows that they are objectionable if the rooms are to be used for ordinary class purposes. By using these ends for wardrobes, the windows would not interfere with the requirements of hygienic lighting and might still be left to furnish a justification for the pretty Gothic window at the top.

A difference of opinion prevails among the leading architects of this country as to the form and position of windows. Mr. Wheelwright objects to the use of mullions and transom bars, while Mr. Snyder in his best New York buildings makes free use of both. The objection to mullions is based on the uneven distribution of light which is incident to unequal spacing. This, however, depends on the conditions in each instance. There appears to be no objection to mullions as used in the central pavilion of building No. 165 where the rooms are lighted on one of the shorter sides and the windows, whose frames are 17 ft. in width and 11 ft. in height, occupy nearly the whole of the available wall space; but in rooms lighted as they should be on one of the longer sides better results can be attained by plain windows evenly spaced than by any use of mullions. The use of them, then, in school house building should be limited to those exceptional cases which require practically the conversion of one side of a room into a single, unbroken source of light.

The use of transom bars, however, cannot be defended, for they are obstructions to light and are certainly not justified if their only purpose is conformity to ancient ideals which had purposes of their own quite different from those demanded in a school house. The highest art will give a pleasing expression to the highest utility.

In determining the ideal length for a school room, the two main considerations are the distance which an ordinary conversational tone of voice will carry, and the distance at which ordinary blackboard writing can be seen. This distance may be taken, with liberal variations to meet particular cases, to be about 32 feet.

The width will depend on the height of the windows. If the German standard of requiring the width to be not greater than twice the clear height be accepted, then the width of the rooms in building No. 165 might be 28 ft. 6 in., as the height is 14 ft. 4 in. A room 28x32 ft. will comfortably seat singly 56 pupils. This is as many as any teacher should be called upon to manage in one room.

In determining the size of classes, there is somewhere a proper balance between the economic and the pedagogical phases of the question. As the child is the all-important factor, it would seem that the maximum number of pupils which can be admitted to one room without sacrificing their health or individuality should be first determined and then make the school house conform to the requirements. As the limits of safety are not confined within fixed, hard and fast lines, the writer believes that the limits of hygienic teaching can be found in a room varying between 22 to 28 feet in width and 30 to 36 feet in length, accommodating respectively 40 to 60 pupils according to conditions.

The mistake in school house building has been in making rooms too large instead of too small as is sometimes charged. The answer of Superintendent Philbrick of Boston, Mass., to this charge when made some years ago against the size of the rooms in the English high school of Boston which was planned by him is worth repeating: "It has been said that the rooms are not large enough. One might as well say that a bushel measure is not as large as it should be. The rooms are as large as they need be for the objects in view in planning them."

In planning a school house the number, size and position of the rooms should first be determined and the architecture adapted to the requirements can then be selected. But the architect too often first decides upon the outside appearance and then makes the interior arrangements to fill the spaces; this frequently results in rooms of various shape and size not well adapted to the purposes for which they were intended.

One of the most important matters in large primary and grammar schools is the number and location of the wardrobes. The provision for these in building No. 165 are not satisfactory. For purposes of order and convenience in handling large numbers of small children there should be one of these cloak rooms provided for each school room. In the building under consideration there seems to be no provision for these rooms in the central pavilion, and those in the outside pavilion are not lighted. This defect could have been corrected by placing windows in the blank wall on the property line. Such windows, notwithstanding their proximity to neighboring walls, would, if ground glass were used, serve a purpose in lighting these cloak rooms without opening a view to objectionable neighborhoods.

A provision for an amply lighted cloak room for each school room is shown in fig. 1, Plate XII, which the writer suggests as an H plan for a large primary and grammar school house. In this plan it is assumed that the building occupies one-half a block having streets on three sides and an alley on the other. In many available sites this condition can be secured; but in cases like that of the New York building the position of the corridors and school rooms in the outside pavilions could be reversed without organic change in the design. In this plan the following features are secured: 1. Ample shelter for 2000 to 4000 pupils, according to the number of stories; 2. Rooms 24x32 ft., the proper proportion; 3. Ventilation by combination of plenum and vacuum movements as shown by the number and position of flues; 4. Four large windows in one side provide ample light for the school rooms if the clear height is not less than 13 feet; 5. A well-lighted cloak room opening into each room and into the corridor, which serves ideal convenience in dismissing the pupils.

This plan does not preclude the use of the space here shown from being occupied by school rooms for other purposes which local conditions might require, such as offices, reception rooms, water closets, play rooms, etc. The plan is intended to suggest a way to secure the above-named features for every school room, and the arrangement would conserve equally well the lighting, warming and ventilating requirements for whatever use the space might be employed.

The position of the cloak rooms at the ends of the outside pavilions while unconventional, serves to preserve the intent as to side lighting, while it does not preclude any outside window arrangement which architectural treatment would necessarily require. Fig. 2 illustrates the idea when applied to a smaller building.

With the limited opportunities in the densely populated districts of our large cities for exercise in the open air, the question of play grounds becomes important. In building No. 165, the open courts between the outside pavilions not being sufficient, the whole first floor is given over to this purpose. This is unnecessarily expensive. The prejudice in New York city against any use of the basement except for the heating and ventilating apparatus should give way before the light of modern methods for the sanitary regulations of basements. A properly constructed basement with half-height top windows and properly supplied with fresh, warm air is as wholesome as any room in the building.

It is especially important in providing for a system of ventilation to carry the air from an elevated and pure source instead of taking it from back alleys and beneath porches and door steps as is too frequently the case.

The use of the roof for play grounds is a good solution of the problem. Public school No. 20, New York city, Plate XIII, is a good example of this use of the roof. The air at this height is generally pure and the sunlight is unobstructed. By thus utilizing the roof and dispensing with the waste space of a high attic under it, this scheme is advisable from an economic as well as from an hygienic standpoint.

THE HIGH SCHOOL BUILDING

A study of the high school buildings of this country reveals perhaps more than do buildings of any other class the progress not only in school architecture, but in pedagogical methods as well. From the first conception of secondary education which consisted of adding four more to the eight primary and grammar grades, the high schools have developed a system of specialized work which is expressed in a building planned and equipped to meet the many and diverse requirements.

The first high school building which marked distinctively an epoch in school house architecture in this country was the Latin and English high school of Boston, Mass., which was begun in 1877. This house was planned by Mr. Jno. D. Philbrick, then city superintendent of the Boston schools, and Mr. Clough, the city architect. The plan was inspired chiefly by Mr. Philbrick after a study of the celebrated building in Vienna — the Academische Gymnasium — which is probably the best school building in the world.

The building is a pure type of the court plan and covers a block of ground 423 feet in length by 220 feet in width. The rooms and corridors are arranged in parallelogram form around a central court which admits light and provides a playground. The lighting for the school rooms is taken principally from the street sides.

This building marks several interesting transitions in methods and ideals of education, one of which is shown in the large military drill rooms, 30x62 ft., a reflection of the militant type of European education. Another is the amphitheatre style of "lecture" room for the teaching of science instead of the working laboratory method now in vogue in the best schools. True, this building contains a working laboratory, but the dominant feature in the science work of that time is seen in the care and expense lavished on the lecture rooms. The building reveals a curious intermingling of the ordinary graded high school, a military academy, and a college of the conventional type.

But it is not for the purpose of calling attention to its faults that this building is here referred to; in many important particulars it may stand as a model of the best that has yet been realized. In the mattter of size, form, location, and lighting of its 48 school rooms it undoubtedly stands at the head of American school houses. Other houses with more modern characteristics have in these important features not preserved the perfect model which this building furnished. These class rooms are of the ideal size and shape, 24x32x14 ft., and lighted by four windows, 9 ft. 6 in. x 4 ft. 6 in., placed on one of longer sides six inches from the ceiling and four feet from the floor. They will accommodate from 35 to 40 high school pupils seated at single desks.

Another excellent feature of this building is the arrangement of water closets, which occupy positions in wings from the stairways, there being two stories of them for each floor, one of the stories being entered at the half-way landings between the floors.

The building is not sufficiently ventilated, there being allowed but 800 cubic feet per hour for each pupil, instead of 2000 cubic feet which is now considered necessary. There also seems to be little or no provision made for the care of the pupils' wraps, except some low box-like closets under the windows, which proved entirely unsatisfactory.

The building was intended to be fire-proof, the corridors being constructed with iron beams and brick arches plastered upon the bricks; the floors are of black marble; and the staircases built of iron.

The main idea which dominated the minds of the designers of this building should not be lost sight of: that the real width of any organic part of the house should be the width of one school room plus the width of the parallel corridor. Whether the construction be on the court or the H plan, this principle is sound, and should be rigidly adhered to in planning a very large school house.

One of the essential features of a high-school house as it differentiates from one built for grammar school purposes is the assembly hall, which in America is simpy a large school room intended for general purposes of classification, and the assembling of the school as a whole for general instruction, announcements, opening exercises, musical entertainments, lectures, etc. It is not an imitation of the German Aula, which is largely for general public purposes, and is usually richly ornamented with costly architectural treatment. The American high school assembly hall is strictly for utilitarian purposes, and not "to represent the dignity of the state." In the Boston school there are two assembly rooms, both on the third floor in the central pavilion, each capable of seating 800 persons. The purposes of the school would have been better served had these halls been united into a single room capable of seating the whole school. But here again the building represents another transition in high school development, that of separating the "classical" and mathematical from the English and science branches; indeed, the block is divided into halves, one for the former and the other for the latter branches. These two assembly rooms were probably intended for the two schools.

The Cambridge English high school (Plates XIV and XV) may be taken to illustrate the next important step in the development of secondary education in this country. The recognition of natural science to a place in the curriculum came slowly, and the pursuit of it by the working laboratory method came still more slowly. In this building, ample provisions have been made for physical and chemical laboratories in two of the large corner rooms on the second and third floors.

These laboratories are well equipped with demonstration tables, chairs with writing-arm attachments, working desks plumbed for water and gas, shelves for reagents, and gas hoods in the chemical laboratory for the removal of noxious gases.

The building represents what may be called the physical science stage in high school development where physics and chemistry have secured their rights, but where the biological sciences — botany, zoology, and physiology — are still in the show cabinet stage, no provision being made for working laboratories for them.

The building is constructed on the H plan with the end pavilions short. The corner rooms are well adapted for the laboratories and drawing rooms, which need an abundance of light and in which light from more than one side is not an objection.

Six of the corner rooms are used for class rooms — a use which does not show an ideal adaptation, as they are 40x 28 ft., which is too large for the purposes of instruction ; it is presumed, however, that they are used to accommodate pupils who are studying as well as those who are reciting.

A more recent and a better method of providing for the study periods of the pupils is the seating of them in rooms or "study halls" planned for that purpose. In modern high schools, the pupils change places every period as is the custom in colleges. These corner class rooms in the Cambridge building are too large for class rooms and smaller than they should be for study rooms as a teacher can easily manage from 100 to 150 pupils in the study hall ; they serve to represent that phase in school house building before the function of a room for recitation and for study purposes became differentiated.

The large assembly hall and the drawing room on the third floor are well adapted to their uses, and the large room in the center pavilion on the second floor called the "senior class room" would make an ideal freehand drawing and art room.

The number and position of the wardrobes ("coat rooms") is ideal from the grammar school standpoint ; in high schools, however, of more recent construction, these rooms have been left out, and the wraps of the pupils disposed of in individual lockers placed in large rooms in the basement set apart for that purpose. This differentiation from the grammar school plan, besides being economical, presupposes that the age of high school pupils puts them beyond the necessity of individual espionage while being dismissed.

But the most distinguishing characteristic of the Cambridge building is its external appearance, it being the first building in which a rational and artistic treatment and utility were happily combined. When visiting this building in 1896, while making an extended tour of school house inspection, the writer was impressed with the simple, strong, artistic elegance of its architecture. It is well proportioned, its parts well unified without any attempt to obscure the uses for which it was intended ; and it is free from fussy, meaningless ornamentation. It stands for what it is — a beautiful school house. By referring to Plate XIX it will readily be observed that these characteristics are reflected by the manual training high school, Kansas City, Mo., started in 1897.

The Cambridge building was erected without special regard for economy ; it is fire proof, and built of expensive material ; the basement is granite, the first story Amherst stone, and the second and third of terra-cotta brick ; its cost, exclusive of ground, was $230000.

While this building stands as an architectural unit from a high school standpoint, the course of study pursued in it is unified with the manual training school, which is situated on the opposite side of the beautiful grounds donated by Mr. Frederic H. Ringe.

The new high school building at Springfield, Mass., Plates XVI, XVII and XVIII, is given as representing the last step in high school development preceding that of the manual training high school. It exemplifies not only what can be done when economy is not a restraining factor, but also illustrates the prestige at which secondary education has arrived in this country. From architects who have $300000 at their command, exceptional results are naturally expected. In the Springfield building, which cost somewhat more than this amount, while not above criticism, our expectations for excellence have in the main been met.

The external architectural design is based on the Italian renaissance, and while it lacks the harmony of proportion given to the Cambridge building, it is strong, dignified and chaste. The foundation walls above grade are of pink granite; the walls of the other stories of buff brick, and the trimmings are of Bedford limestone. Every sixth course of brick of the first story is indented ("six cut work") which adds variety and strength to the general effect. It is constructed on the central court plan, the rooms occupying three of its sides, and a corridor completing the rectangle. It is 203 feet by 173 feet, and built on a lot 400 feet by 270 feet.

The interior is rich with all the ornamental detail which polished marble, plate glass, bronze trimmings and other expensive materials can give. Mechanically it is a modern, expensive and magnificent structure.

The heating is by indirect radiation supplemented by direct radiation in exposed parts. The furnace and boiler are installed in a separate house outside the main building. This feature is much to be commended as it insures to all the school rooms immunity from coal dust and escaping smoke which are incident to a boiler house even with the most careful firing. This plant has four horizontal tubular boilers each 125 h. p. capacity. The indirect coils are located in heating chambers near the four outside corners of the building. The fresh air is supplied to these heaters through main conduits extending around the parallelogram directly under the corridor of the first floor. These conduits are very large, about 80 square feet cross sectional area insuring an abundance of fresh air. The air enters this conduit through an elevated shaft — a highly commendable sanitary feature — by which a pure source is insured.

The plenum movement is accomplished by three large fans located at convenient distributing points. The four exhaust fans, four feet in diameter, are located near the top of the four vent shafts. Separate fans are used to ventilate the laboratories.

The heat is regulated by thermostats, another luxury of modern engineering. This is in reality more than a luxury in a school house; it is a necessity, for experience has proved that the regulation of the heat in school rooms cannot safely be entrusted to the teachers, whose minds are not only preoccupied but whose judgment on such matters is not always to be relied upon.

The lighting of this building, while in the main abundant, is not altogether fortunate in its distribution. The assembly hall in the center of the court is lighted from above and by light courts at the sides. The school rooms on the sides of the building are large — 27 feet by 37 feet — well proportioned and well lighted by five windows on one of the longer sides; but the eight corner class rooms on the first and second floors have the objection common to such rooms used for this purpose — light in the face of the teacher. This defect is not necessarily incident to the court plan of construction, and has been happily avoided in the Newark, N. J., high school, Howard & Cauldwell, architects. Although the advantage of light on two or more sides for laboratories is not recognized in this school.

It is the character and arrangement of the third floor of the Springfield building which especially commends it as a type of modern high school building. Here the recent demands of the physical and biological sciences are fully met, and the relative importance of laboratory and lecture work properly apportioned. The whole provision on this floor comprises seven working laboratories, three drawing rooms and one lecture room. The latter occupies a central position between the chemical and geological laboratories on the one hand and two physical laboratories on the other. The biological laboratories — three in number — occupy positions on the side of the building adjacent to the physical laboratories; and the drawing rooms are located on the remaining side. The drawing room on the corner, with light on two sides, is adapted to mechanical drawing, while the long room, lighted on one side by seven windows, is admirably adapted to freehand, perspective and art work.

A conservatory for plants and flowers is situated on the third floor on the inside of the corridor extending into the court. Above this is an astronomical observatory with revolving copper dome.

But it is in the location and height of this observatory that the enthusiasm of science has somewhat strained architectural possibilities. While the dome is a very good one and looks well when viewed at some distance, it is practically useless for astronomical purposes except for amateur work of the crudest kind. Although "it rests upon a steel column directly connected with one of the foundation walls," vibrations are certain to occur on account of its height and its connection with the roof of the building. The writer speaks from experience with a telescope similarly located in a dome above the third floor of the Kansas City central high school.

In the disposition of the pupils' wraps, the grammar school characteristic has been retained. Wardrobes are located in a quarter without light between the corridors and the school rooms, instead of having individual lockers in large rooms in the basement, as now found in many high-school houses of recent construction.

An excellent use has, however, been made of the central space in the basement of the Springfield building. A large lunch room is here provided with double counters equipped for furnishing light refreshments.

The question of lunches is one of the important and unsolved hygienic problems in high school education. This problem arises from the relatively short school day in secondary schools; it is too long for one session and too short for two. When put into one, the dinner hour is too late; when divided into two, the short cold lunch hastily eaten is equally objectionable and detrimental to the health of the pupils. A large, well-appointed cafe in the building, where it can be secured and managed economically for the pupils, is the best solution of the problem. This gives two short sessions, with a light warm lunch given at the proper time.

THE MANUAL TRAINING HIGH SCHOOL

It has been noticed that the high or secondary school in America started simply as additional grades to the eighth grammar grade; and that these grades confined the attention of the pupils to books only, differing from the work of the lower grades only in the subject-matter found in them. We have seen the school house for this work grow from the ordinary school room type to that just described.

No less interesting is the growth of the manual training high-school house which is as in the former case a material expression of educational progress in this country.

With the growth of the high school and the multiplying of branches of study, came a tendency too scholastic and bookish for practical purposes, when science came in as a balance. But laboratory science, excellent as it serves its purpose, is inadequate. The applications of science to the world of industry and art is not made a part of the pupil's growth until he can make this application a part of his training.

The first response to this demand for the practical element was, as in the case of the high school, crude. It was merely a better sort of apprenticeship — a trade school. Later, a little academic work was added — just thrown in for "a little book learning." Still later the use of tools was generalized, the academic requirements enlarged by the introduction of branches of high school grade. The curriculum was adapted to pupils of high school age. The time was divided between tool work, drawing, and book studies, and the "manual training high school" became a reality.

It would be interesting to trace the growth and development of these schools by giving plates from the first one which was built in St. Louis twenty years ago under the direction of Calvin M. Woodward, and still a flourishing school, to the latest and most improved; but space forbids. The first of these schools were supposed to be for those who expected to be mechanics and were for boys only. It was not till the establishment of the St. Louis school that manual training was considered on an educational basis.

With the recognition of the educational claims of manual training, apart from its practical utility, came the apportionment of the academic studies and tool work in making out the curriculum. In doing this, varying knowledge and conflicting ideas have been crystalized and recorded in the school houses. In some cases, one or two shops were added to the ordinary high school where the boys could work "after school;" in others built for manual training schools, the shops predominated, and the mere mechanic fixed the character of the school with too few of the academic characteristics.

Later came the extension of the manual high school to girls, and the modification of the training answering to their needs along the lines of the feminine industries; and this correlated with the full academic, art and science provisions of the ordinary high school.

Thus have the two types of school — the purely academic and the purely mechanical — grown, developed, and converged into one correlated unit forming the high school, par excellence. The term "manual training," which at first had its uses in distinguishing two distinct types has become somewhat misleading in its application tothe school of to-day; but it must still be retained for the want of a better means of designating it from those high schools which have not yet incorporated manual training into the curriculum.

The Kansas City manual training high school, Plate XIX, is here given as a type of its class, not because it is in all respects superior to others or because it is free from defects, but rather because it was planned after others had been carefully studied.

The public manual training high school building of to-day should embody in its construction rooms specialized for a four years' course in art, science, academic work, and manual training for boys and girls; and owing to the expense of maintaining it above that of the ordinary high school, its construction should be undertaken with the strictest economy consistent with hygienic and architectural requirements.

The writer believes that more of these requisites have been realized in this than in any other school house yet built. When finished (the east pavilion completing the design as shown is now, December, 1899, nearly completed), it will be 190 feet in length and 140 feet greatest width; it is built on a lot 250 feet long by 165 feet wide, and has a frontage on three streets.

The central and right hand (as shown by the cut) pavilions were built in 1897 at a cost of $100000; this includes heating, ventilating, plumbing, laboratory, equipment, furnishings, and manual training equipment for first two years of the course, but not the ground. The wing now being built will, with its equipment, cost $50000 more, making a total of $150000 for the entire plant. The basement walls are of limestone blocks rough hewn and "pitch faced." The upper stories are of Kansas City buff brick, the first story being "six cut" work. The roof is of brown slate. The architectural effect is pleasing; it is plain, straightforward, and free from meritricious ornamentation. Flamboyant trimmings are absent. Something of the harmonious effects which have been noted in the Cambridge high school have been given to this with less expensive materials. The arches which span the piers between the windows of the second and third stories of the central pavilion, while suggested by the Romanesque style of architecture, do not sacrifice the lighting of the rooms, for the mullioned windows as here employed give a larger opening than could be otherwise secured. But the transom bars used in these windows should have been omitted, for they obstruct light and do not improve the appearance.

The heating is accomplished by indirect, supplemented by direct, steam radiation; the ventilation by two Hope propellers, 6 ft. in diameter, one in the fresh air room serving as a plenum, the other in the foul air room as exhaust.

The chief merit of this lies in the central location of the plenum containing the indirect steam coils. The arrangement is shown in the basement plan; the plenum is the unlettered room in the center. A change was made in the plan which makes the plenum room slightly smaller than represented. This room with its heated steam coils and fresh air supply are to the buildings what lungs are to an animal, and its location in the center insures a balanced circulation. The movement of the air is as follows: The plenum fan located in the fresh air room receives the supply through vertical shafts on either side of the front entrance. The openings into these shafts are the large louvre windows shown in the perspective, Plate XIX. These windows are on the north side of the building far removed from any source of smoke and high enough from the ground to insure purity. The course of the air after it is forced through the plenum room may be followed by referring to the cross section of the building, Plate XXII. The section is made through the fresh air, plenum, and foul air rooms and shows the position of both fans. The air rises through the fresh air flues and is delivered into the rooms about 8 ft. from the floor. It is drawn out by the exhaust fan located in the foul air room through the foul air flues which lead from the wall registers near the floor to a sub-basement shown in fig. 1. This sub-basement is three feet high and extends the entire length of the building the full width of the bicycle rooms; four wings extend from this subway so as to communicate with the four sections of flues between the rooms. The exhaust fan draws the air from this subway, thus connecting the lower registers of every room with low pressure.

It would require a longitudinal section of the building through the bicycle rooms to illustrate the movement of the air toward the outside pavilions: but this is easily described.

A "false" ceiling three feet below the floor over the bicycle rooms provides an open free passage for the air as it is forced from the plenum room; this is virtually an extension of the plenum room to the openings to every fresh air flue in the house without the use of distributing pipes.

By this means, all the friction which is incident to the usual method of pipe distribution is eliminated. This being a departure in pneumatic engineering, it deserves some attention; it was a concession on the part of the architect and the result of a compromise with the writer who wanted to extend this plenum chamber in the same manner beneath the floors instead of near the ceiling by the conventional method.

Let it here be noted that the economy in fuel when warm air is delivered through the floors and so distributed that it may be let out at the ceiling is enormous. It exceeds the usual way by a ratio almost equal to that of the mechanical system of ventilating over that of the gravital noted on a preceding page.

The economy in warming when the air is properly distributed through the floors and let out at the ceiling, as compared with the conventional way, has been carefully tested by the writer by the use of an experimental model. While these experiments are somewhat too technical to suit the purposes of this article, a study of the plot, Plate XXIII, will not be without interest.

The figures at the left show the difference in inside and outside temperatures; those at the top, amperes of electric current used in heating iron coils as the source of heat; those at the bottom, relative heat units. It will be noticed that these are the squares of the amperes above and thus show the well-known thermal relation between the current and its thermal equivalent. It will be understood that these numbers are not real thermal units, but serve to show the relative amount of heat at different readings of the ammeter.

The line AO shows the results when the air was distributed under the floor with ventilation above; BO, when the air was delivered at the side with ventilation below; CO, when the air was delivered near the top and let out at the top. Take an example: Suppose the temperature above that outside of the room to be 50 degrees, this temperature line crosses the resultant line at X, showing that it requires 2 1-2 amperes of current to maintain this temperature when heat is applied below. With the same temperature when the heat is applied at the side the line crosses at B, showing 10 amperes. Whence it is plain that the relative heat required in the two cases is shown by the ratio of 6 1-2 to 100. In plain words, it would require only 6 1-2 per cent of the cost by present methods to heat a building if the air were properly distributed, delivered through the floors, and let out at the top.

The writer fully realizes that the foregoing brief statements will be somewhat unsatisfactory to those who are unfamiliar with the details of the tests,[1] but he is confident that this method of warming and ventilating has reached the stage of successful experiment, and will as surely displace the old way as that the electric motor displaced the horse in street car locomotion.

Returning to the extended plenum chamber under the corridor floors, it may be said that it works perfectly, and so much of the "theory" has passed into history.

During the first two years of its use this system, with the exception of the register in one room, has required no regulation of the registers, notwithstanding the absence of thermostats. The exceptional room is on the first floor just opposite the plenum fan; in this the delivery is excessive unless the register is kept partly closed. The exception is of so little importance, however, that the placing of a deflector in the plenum room has not been found necessary.

While the ventilation of this building has some of the defects common to current practice, the writer believes that it is the best ventilated school house in America, and, the size of the building considered, the most economical.

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[1] For full explanation and experimental details of these tests, see the writer's paper in the Report of the Proceedings of the Mechanical Engineering Section, American Association for the Advancement of Science, at Columbus, O., 1899.

The fans, when running at full speed, 400 revolutions, move 60000 cublic feet per minute. This would supply 2000 pupils each with 1800 feet per hour. The average daily attendance during the past year, 1898–9, was about 900. The fans were run 250 revolutions per minute giving each pupil 2500 cubic feet of pure warm air per hour.

The lighting of this building is nearly ideal. The H plan of construction provides light on three sides of all rooms used for laboratories, manual training and mechanical drawing; including the lunch rooms and the engine room in the basement there are 16 of these. The large windows at and above the three main entrances furnish ample light for the halls and corridors. The class rooms do not conform to the ideal standard recommended in the preceding pages. These rooms, while of ideal shape and size, are lighted on the shorter instead of the longer side. But considering the use of the entire available wall space which has been employed for the mullioned windows lighting these rooms, the height of the rooms being 14 feet, and the use which is made of the rooms, this departure from standard requirements is not serious. It should be remembered that in high school academic work there is comparatively little pen-writing done, the greater use of the eyes being confined to blackboard work. The light in these rooms is ample for all purposes for which they are ever used.

The assembly hall is as light as day itself, as may readily be inferred by glancing at the third floor plan. With ceiling 24 feet high, and light from 18 large mullioned windows 8 feet by 16 feet with arched windows above these, entering from opposite sides, more light is provided than is called for by any standard. This assembly hall is 120 feet by 84 feet and has a seating capacity of 1600 persons; it serves for lectures, concerts, study hall, and commencement exercises. It is equipped for stereopticon projection work; and although there is a window area of 2800 square feet, the room is completely darkened in 50 seconds by an automatic electrical device which controls the raising and lowering of the darkening shades and the screen back of the platform.

It may be noted here that provision for darkening rooms for scientific purposes and for illustrated lectures is another phase of modern school architecture, and not until recently have the mechanical difficulties incident thereto been entirely overcome. The mechanism in the Kansas City school consists of a 1 h. p. Westinghouse motor with worm gear, magnetic clutch, and drum attachment which moves a steel cable extending around the room under the windows and beneath the floors.

The physical and biological laboratories provide for teaching physics, chemistry, botany, and zoology, and all have separate teacher's laboratory for research work. The working tables in the physical laboratory are each separately wired for the individual use of the current by the pupils. The brick pier (shown in the plan of the girls' lunch room) terminates in the physics demonstration table furnishing a vibrationless support for galvanometer experiments.

The chemical laboratory is furnished with students' working desks with solid slate slab tops. Six drawers to each desk provide a locker for each pupil in which to keep apparatus for which he is alone responsible. Three large gas hoods located against the walls and in communication with the exhaust fan give perfect ventilation and provide a place to generate noxious gases. Another point of special convenience in these laboratories is the sliding door 16 feet wide which throws them together with the adjoining large class rooms. By this arrangement, the teacher may oversee a laboratory division while conducting a recitation.

The tables in the biological laboratories are topped with plate glass which has the advantage of smooth, easily-cleaned surface for dissections. Wall paper of a neutral tint placed under the glass relieves the eyes of the pupils. The main corridors on the first and second floors are 19 feet wide and serve the double purpose of corridors and exhibition halls where at the closing week an exhibit of the yearly work is arranged on long tables.

The large "geology and natural history room." on the second floor will hereafter be used for a free-hand drawing and art room, the north light making it ideal for this purpose.

The pupils' wraps are provided for in locker rooms in the basement.

The outside pavilions are of the "mill construction" which is especially to be commended for shops and laboratories. The inside walls are of pressed brick. The floors are supported by large steel I beams running crosswise, carrying large, finished, wooden joists. One entire pavilion is used to accommodate the manual training work; while architecturally a unit with the other part of the building, this pavilion is set off by an independent wall with a 4-inch cushion of air between to prevent the communication of vibrations to the class rooms from running machinery. An additional precaution is furnished by the intervening locker and wash rooms which serve the boys in preparing their toilets after the shop exercise.

The entire inside finish is of selected yellow pine. The building is not fireproof, except the "slow combustion" which the mill construction secures to the parts just mentioned. The isolation of the building and a system of night-watch signals make fireproof construction unnecessary.

The numerous class rooms supplementing the laboratories, shops, drawing and art rooms provide conveniences for a complete high school academic course correlated with laboratory science, manual training and drawing.

The stairs in this building conform to the standard requirements as to number and height. The double staircases at either end of the main corridor and the single one at the end of the central hall afford ample and free egress in case of fire. The stairs are five feet in width with six-inch risers and twelve-inch treads.

While the injury to the American school girl from stair climbing has probably been exaggerated, it is undoubtedly true that girls of delicate organization have suffered much from this cause. It seems to be the consensus of opinion of all who have considered the subject that the six-inch riser and twelve-inch tread makes the easiest stairway. There should not be more than fifteen stairs between landings.

CLOSETS

The location of closets should be determined by the existing facilities for ventilation and drainage. Where there is any doubt as to the efficiency of either, closets should be placed in outside buildings; but when a school house has the advantage of good sewage and mechanical ventilation, the place for pupils' closets is the basement.

The condition of closets and outhouses which usually prevails in districts without sewage deserves the severest criticism. It is here that the results of ignorance and carelessness are fully revealed. The privy vault should never be tolerated, and the large receptacle surface tanks which are usually "cleaned" two or three times a year are little better. The following quotation from the report of the state board of health of Maine for 1892–3 is good, and covers about all which need be said of outhouse closets: "All that is needed is a common closet, a supply of dry earth, a water-tight receptacle beneath, and a convenient way of disposing of its contents at quite frequent intervals.

"The receptacle should be wholly above the surface of the ground, and may consist of a metallic-lined box, a half of a kerosene barrel with handles upon it for removal, or, which is better, a large galvanized iron pail.

"The receptacle may be removed through a door in the back of the closet or in front of the seat, or, by having the seat hinged and made to button backward, it may be removed that way. The earth should be common garden or field loam and finely pulverized. Road dust does well, but sand is not suitable. Coal ashes are good. Whichever of these is used should be dry and screened through a sieve with about quarter inch meshes. The dry earth may be kept in a box or bin so arranged, where it can be, that it may be filled from the outside of the closet, or it is quite convenient to have one-half of the seat hinged, and beneath it the small compartment to hold the present supply of the earth. In this box or bin holding the earth there may be a small tin scoop which may be employed in sprinkling in the earth, a pint or more each time the closet is used. The main thing is to use enough of the earth to completely absorb all liquids, and this requirement, of course, precludes the throwing of slops into the closet."

Figure 1, Plate XXIV, shows the construction of this closet.

Arrangements could easily be made with gardeners or farmers for the daily removal of the contents of these receptacles for fertilizing purposes.

Closets under the roof of the school building should have good sewer connection through a heavy cast iron soil pipe which should have a vertical extension in a pipe 3 or 4 inches in diameter through the roof for ventilation; an efficient trap situated in a convenient manhole; an automatic flushing tank, and local ventilation for each separate seat.

It is important that provision be made in school house closets against the stopping up of pipes and traps, and the neglect incident to hand flushing, hence automatic latrines are preferable to single closets. The mechanical conditions of a perfect system of closets may be studied by referring to the cut, Fig. 2, which shows a longitudinal section of the automatic flushing latrine in the Kansas City manual training high school.

It was installed by Lewis & Kitchen of Kansas City. The trough is made of cast iron lined with heavy enamel and is perfectly smooth and durable. The bottom is so constructed that the water stands only in the parts of the trough directly under the seat. The trap is the invention of J. H. Brady, engineer for the Kansas City board of education; it is hinged so that it may be raised up allowing all accidental lodgements a free exit; it is located in the bottom of a dry vault and may be reached with a hook in the hands of the janitor or other person. There is no possibility of needing the services of a plumber should the trap become clogged.

The upper drawing in the cut shows the local ventilation of each separate closet. The air enters just below the front part of the seat and passes out at the back into the vent duct which is in direct communication with the exhaust fan. The ventilation in this method of transverse movement of the air is better than it is possible to secure in systems which ventilate the trough longitudinally, for even when the lids of the seats are left down the air passing under them from above will supply the current and prevent the requisite flow from the end of the trough remote from the vent.

The boys' urinals are of the stall partition type with gutter trough ventilated at the bottom. The back, ends and partitions are made of hammered glass, the tread and trough being of slate. Glass is preferable above all other material for this purpose as it is easily cleaned and free from any tendency to disintegration.

NORMAL SCHOOL AND COLLEGE BUILDINGS

The essentials of a normal school house are not materially different from those of a first class high school. Class rooms of ordinary typical construction serve the purpose of "professional" work with training classes, and with modern views now taking root respecting the amount of academic, science, and manual training needed in normal school courses, these functions have already been considered in describing the manual training high school. The "Teachers' college" in New York city is an interesting building and might serve equally well the purposes of a modern manual training high school. In universities, the work is specialized in separate buildings which simplifies the task of the architect. The principles of sanitation and architectural treatment indicated in the buildings already referred to apply so well to special buildings that separate consideration is not considered essential to this short monograph.

INFLUENCE OF LEGISLATION ON SCHOOL ARCHITECTURE

The state of New York in 1887 passed a law authorizing and directing the state superintendent of public instruction to procure architects' plans and specifications for school buildings ranging in cost from $600 to $10000. This was a very important step and it resulted as was intended in enlisting the best architectural talent in the country. Liberal prizes for the most meritorious designs were offered, and as a result some very creditable designs were secured. The suggestions which these designs furnished have been acted upon in many districts not only in New York but in several other states. Following is the list of the names and residences of the architects who presented creditable designs:

Wm. P. Appleyard and E. A. Bowd, Lansing, Mich.
John R. Church, Rochester, N. Y.
John Cox, Jr., New York city.
Clarence True, Yonkers, N. Y.
C. Powell Karr, Rochester, N. Y.
J. C. A. Heriot and Corliss McKinney, Albany, N. Y.
J. Frank Lyman, Yonkers, N. Y.
Warren R. Briggs, Bridgeport, Conn.
Fenimore C. Bate, Cleveland, Ohio.
Proudfoot & Bird, Wichita, Kans.

In 1882, the state superintendent of Wisconsin invited the competition of architects in furnishing designs at small cost. Following are the names and addresses of architects who made valuable contributions:

J. Bruess, Milwaukee, Wisc.
W. G. Kirchaffer, Elkhorn, Wisc.
Edbrooke & Burnham, Chicago, Ill.
H. C. Koch & Co., Milwaukee, Wisc.
G. Stanley Mansfield, Freeport, Ill.
F. S. Allen, Joliet, Ill.
F. W. Hollister, Saginaw, Mich.

In 1895, the state legislature passed a law which says that: — "Hereafter no school house shall be constructed in the city of New York without an open-air playground attached to or used in connection with the same." This law has done much toward improving the hygienic conditions in New York, and its influence has been felt in other cities.

The state laws of Massachusetts provide for the placing of fire escapes in all buildings more than two stories in height; also "that every school house shall be kept in a cleanly state and free from effluvia arising from any drain, privy, or other nuisance, and shall be provided with a sufficient number of proper water and earth closets." It further provides that "every school house shall be ventilated in such a proper manner that the air shall not become so exhausted as to be injurious to the health of the persons present therein."

The state laws of Kentucky provide that each school house shall have a floor space of not less than ten square feet to each pupil in the district; shall be at least ten feet between floor and ceiling; shall have at least four windows; one or more fireplaces with chimneys made of brick or stone." It also provides that each school house shall provide for each child "a seat with back the height of the seat and its back to suit the age of the child — no desk or bench to be made to accommodate more than two children."

The statutes of Vermont (1896) provide that: "The state board of health shall within reasonable time and as often as it thinks necessary issue a circular letter to the local boards of health giving the best information as to lighting, heating, ventilating, and other sanitary arrangements according to regulations by the state board of health."

The laws of Connecticut provide that "every school house shall be ventilated in such manner that the air shall not be injurious to the health of the persons present therein."

In many of the states the only legislation is that doors in school houses shall open outward. This is a precautionary provision against accidents in fires, and seems to be more generally recognized by state legislatures than any other single necessity.

In many other states there has been no legislation whatever.

In view of the large benefits which have already been realized from the little legislation that has been made in a few states, it is to be hoped that this important means of enlightenment will become more general in the United States.

WORK OF SCHOOL SUPERVISORS AND ARCHITECTS

Next to the good which has been accomplished by state legislation comes that which has been done by state superintendents who, realizing the importance of school architecture, hygiene, and sanitation, have from time to time embodied in their reports valuable information as to the needs of the schools and suggestions as to how to supply them.

In Wisconsin, State Superintendent W. C. Whitford in 1882 issued a valuable circular on "Plans and specifications of school houses" for the country districts, villages, and smaller cities of his state. In 1892 Supt. Oliver E. Wells issued a valuable pamphlet containing suggestions and plans for the ventilation and furnishing of school houses.

In Michigan, State Supt. Henry R. Pattengill in his report for 1894 gave some valuable information on "School grounds, school house architecture, and outbuildings." Also Supt. John E. Hammond in his report for 1897 gives valuable information.

The state board of Connecticut issue from time to time valuable school documents, among which No. 13 is a valuable scientific monograph on "School house warming and ventilating" by S. H. Woodbridge. Documents Nos. 12 and 15 contain suggestions on ventilation, and show a large collection of plans for school houses.

For the state of New York, Supt. Chas. R. Skinner has issued several reports of great value, among which is a large bound volume on "Recent school architecture," and contains a large number of plates showing the plans and perspectives of many of the best school houses in the state.

State Supt. Nathan C. Schaefer of the state of Pennsylvania has given in several of his reports many good suggestions, and has been unsparing in his criticisms on existing conditions in country schools, as a means of stimulating effort toward the improvement of school buildings in his state.

In Missouri, Supt. Jno. R. Kirk has done some excellent work in the improvement of country schools and in his reports of 1896 and 1897 he gives a plan for a model country school house which has been adopted by many of the country districts in the states. This plan possesses the sanitary features described in the other one-room building already described.

Of the architects who have not hereinbefore been mentioned and who have done excellent work in school house building may be named: Robert S. Roeschlaub, Denver, Colo.; E. H. Mead, Lansing, Michigan, whose "three-room building" shown in the Michigan state report for 1898 is especially to be commended; Arthur Bohm, Indianapolis, Ind.; Hudson & Wachter, architects, Toledo, Ohio; Howard & Camdwell, Newark, N. J.; E. A. Joselyn, New York city.

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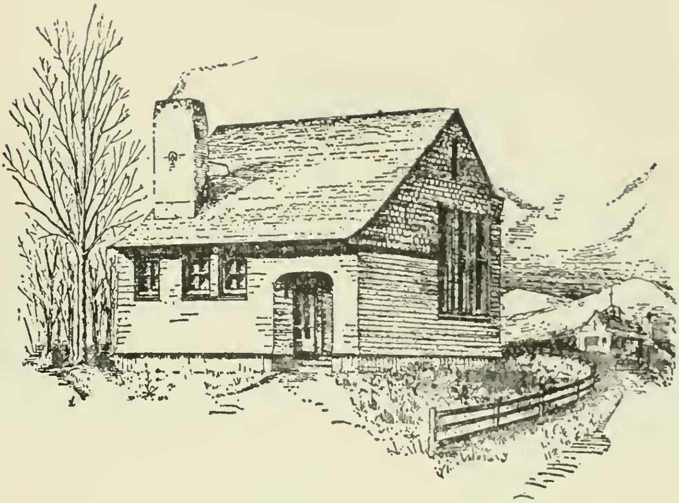
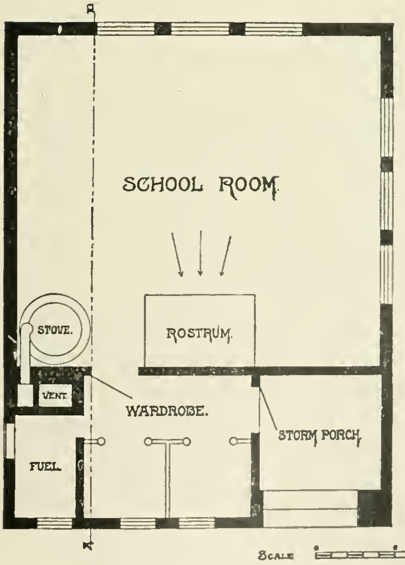
PLATE I

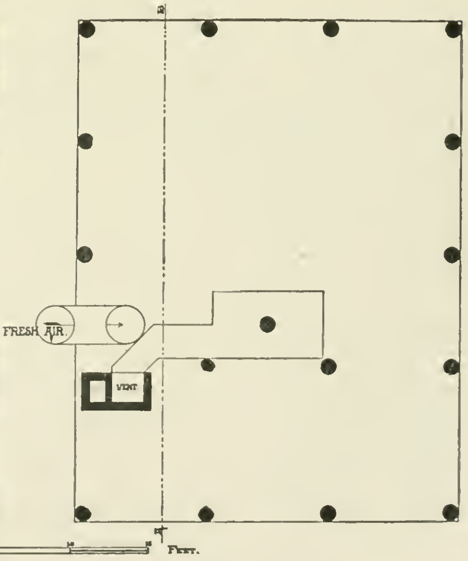


ONE ROOM COUNTRY SCHOOL HOUSE

Wm. P. Appleyard and E. A. Bowd, Architects, Lansing, Mich.

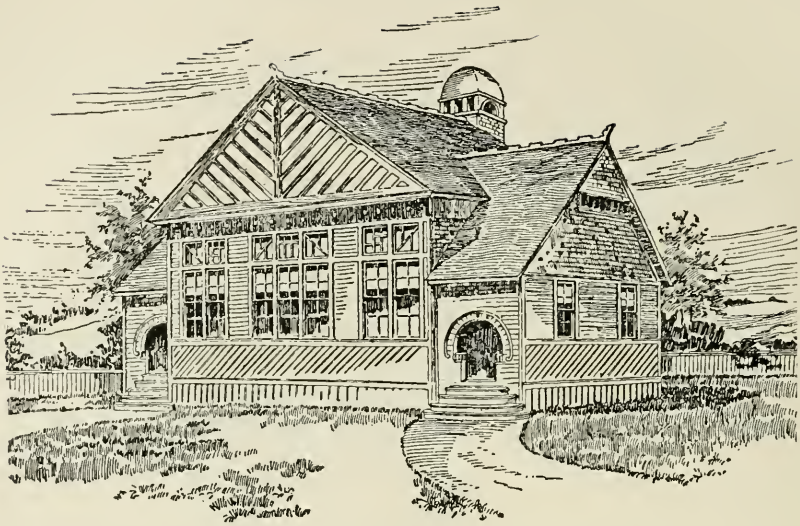


Floor Plan



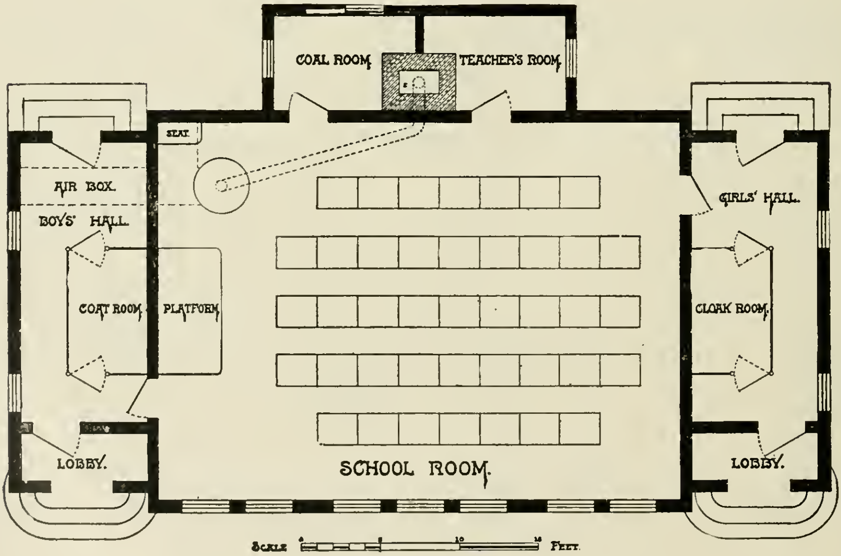
Basement Plan

PLATE II



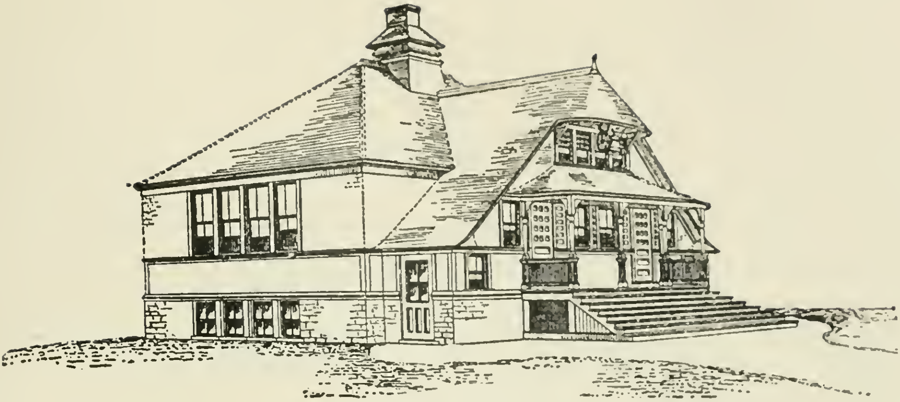
MODEL ONE ROOM SCHOOL HOUSE

C. Powell Karr, Architect, New York



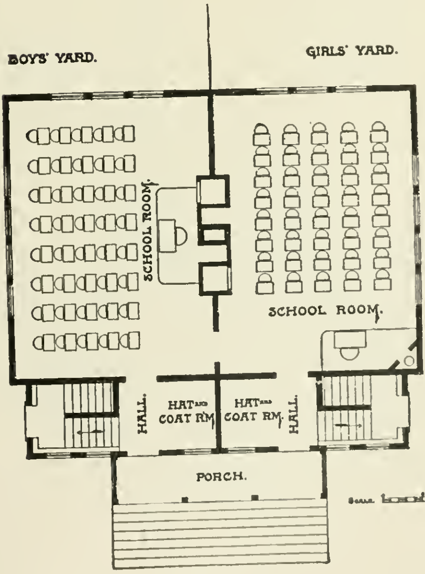
Floor Plan

PLATE III

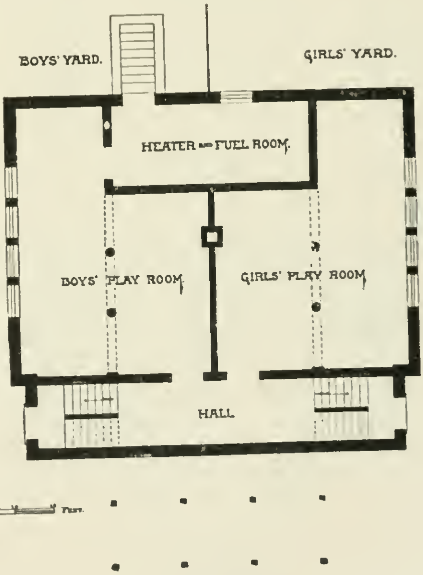


A TWO ROOM SCHOOL HOUSE

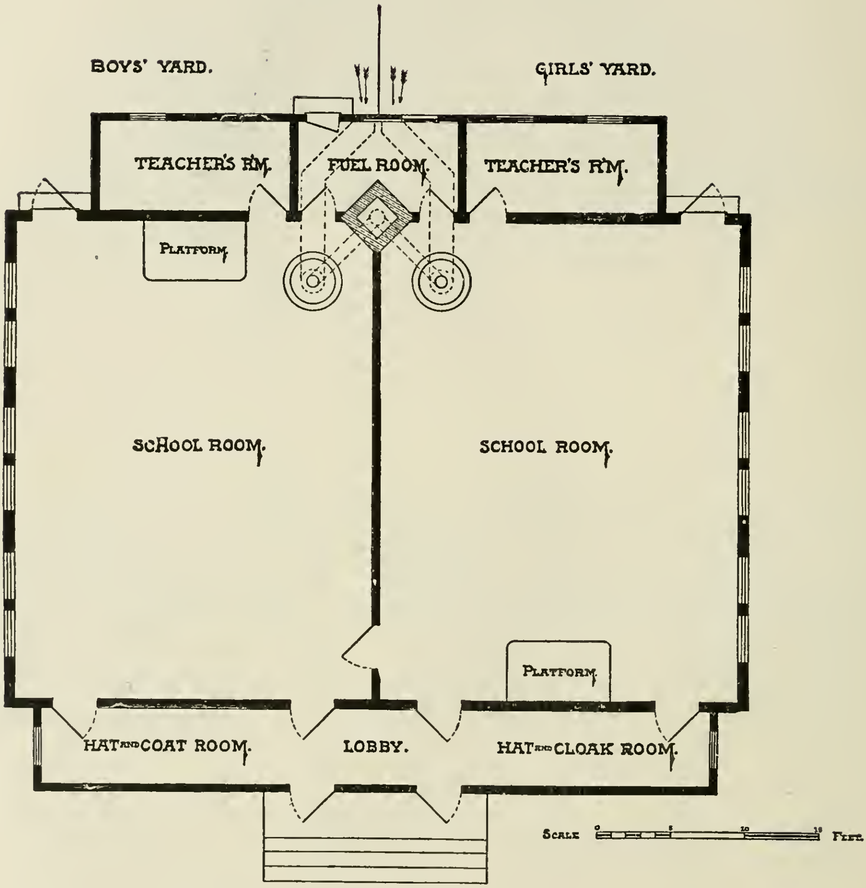
Warren R. Briggs, Architect, Bridgeport, Conn.



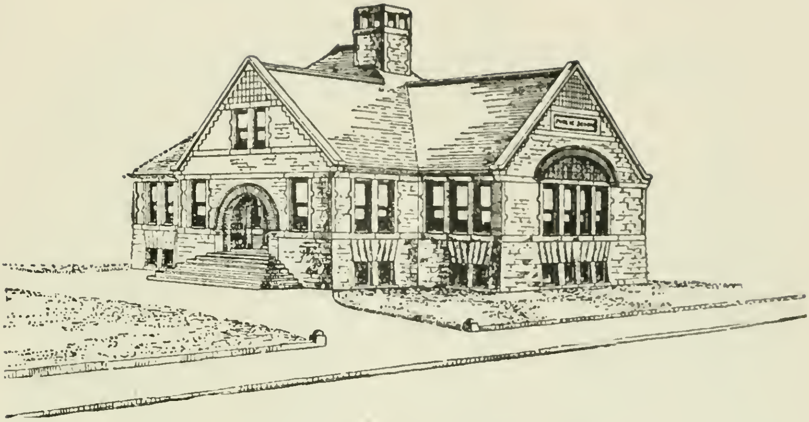
Floor Plan



Basement Plan

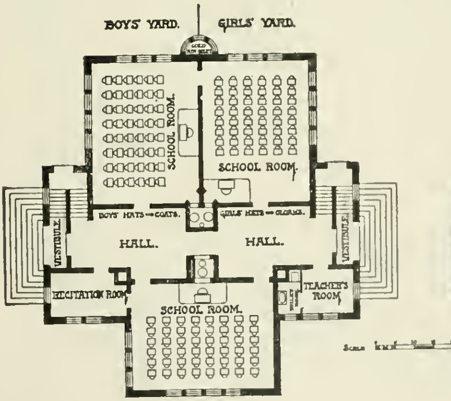


PLAN SUGGESTED FOR AN INEXPENSIVE TWO ROOM SCHOOL HOUSE

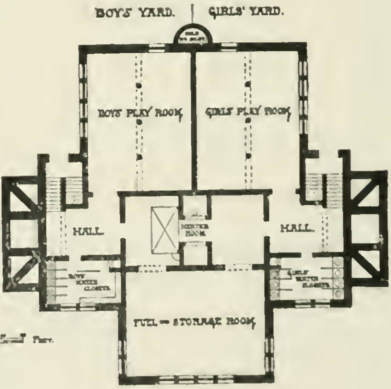


A THREE ROOM SCHOOL HOUSE

Warren R. Briggs, Architect, Bridgeport, Conn

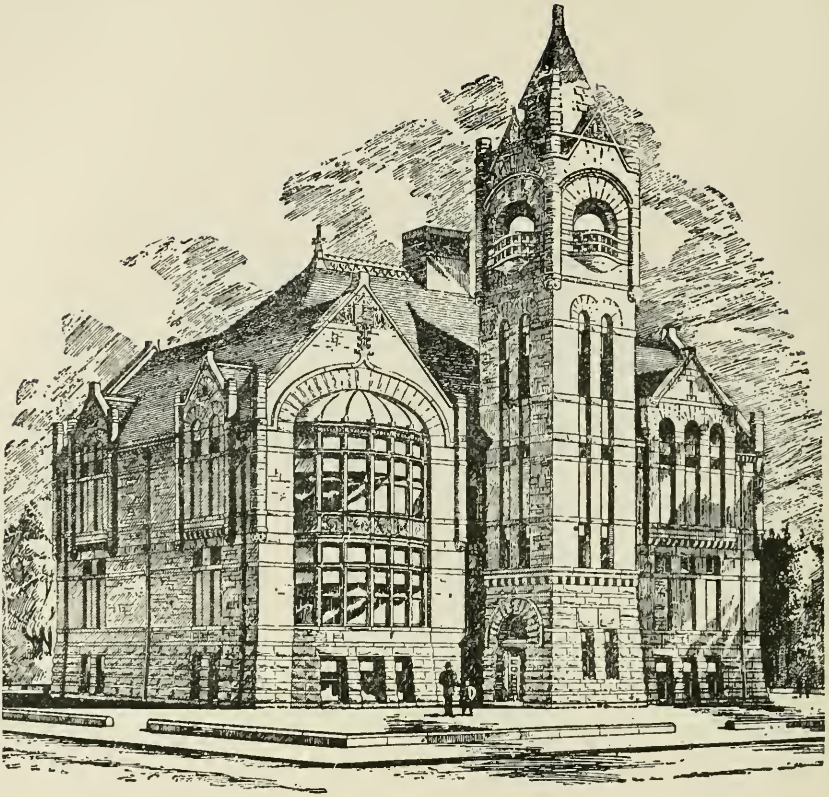


Floor Plan



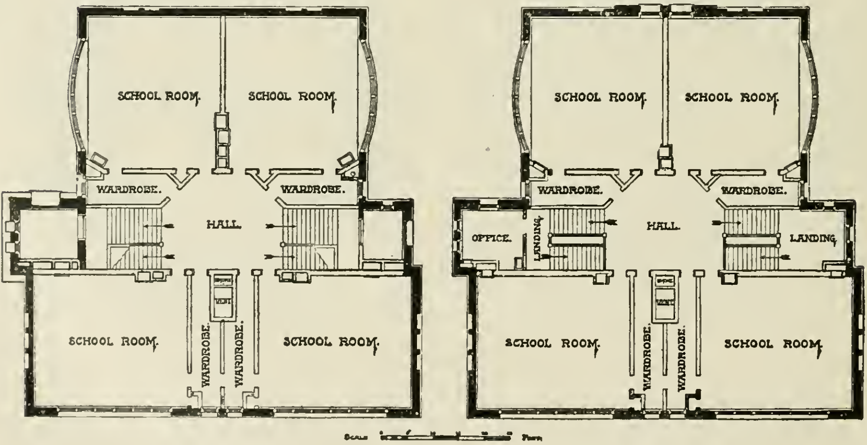
Basement Plan

PLATE VI



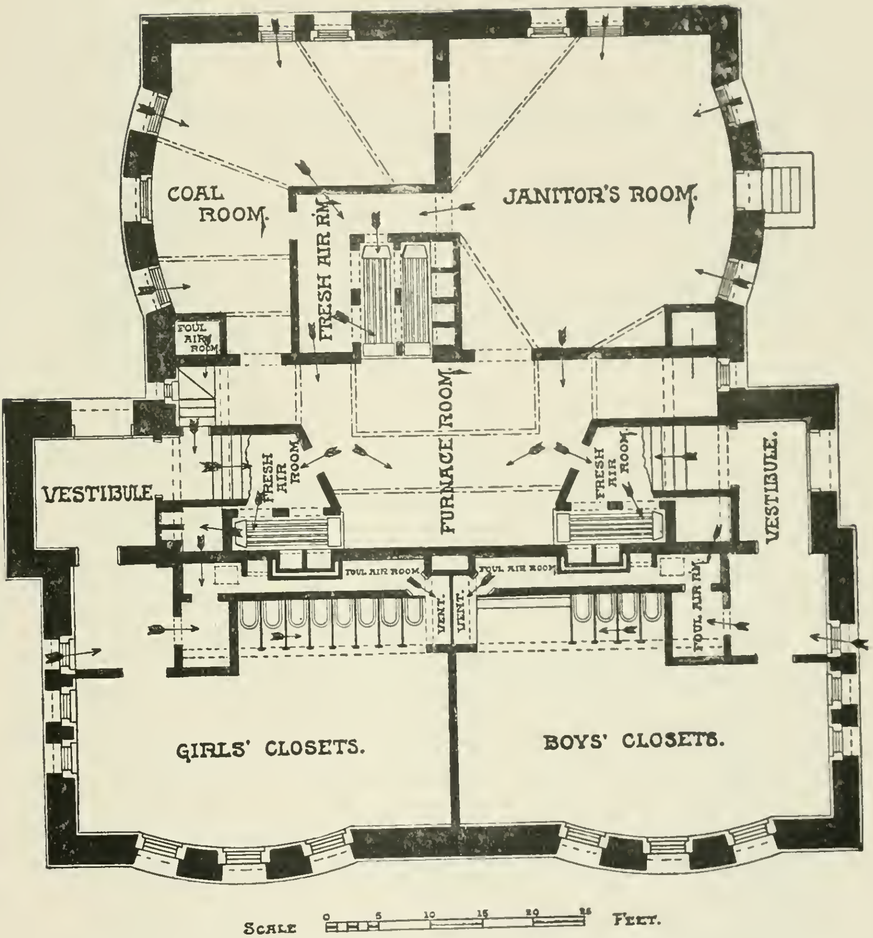
FIFTH WARD SCHOOL, JOLIET, ILL.

F. S. Allen, Architect, Joliet, Ills.



First Floor

Second Floor



FIFTH WARD SCHOOL, JOLIET, ILL.—Basement Plan

PLATE VIII

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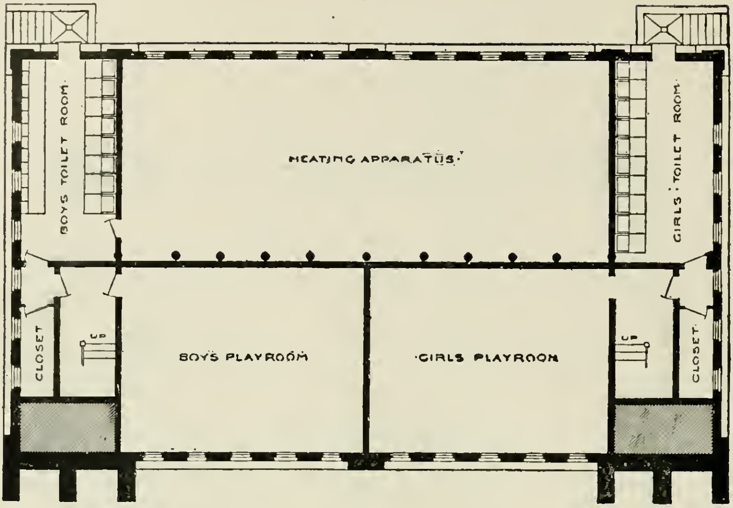
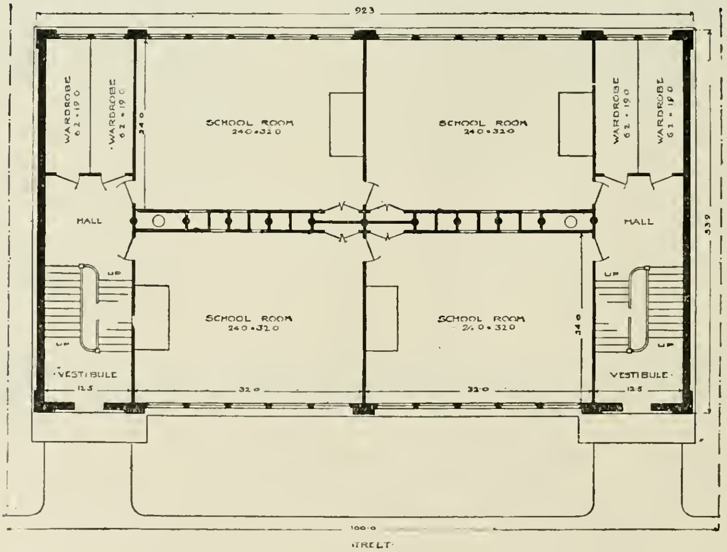


Fig. 2



BASEMENT AND FIRST FLOOR PLANS OF AN EIGHT ROOM PRIMARY AND GRAMMAR SCHOOL HOUSE

William Atkinson, Architect

PLATE IX

Fig. 1

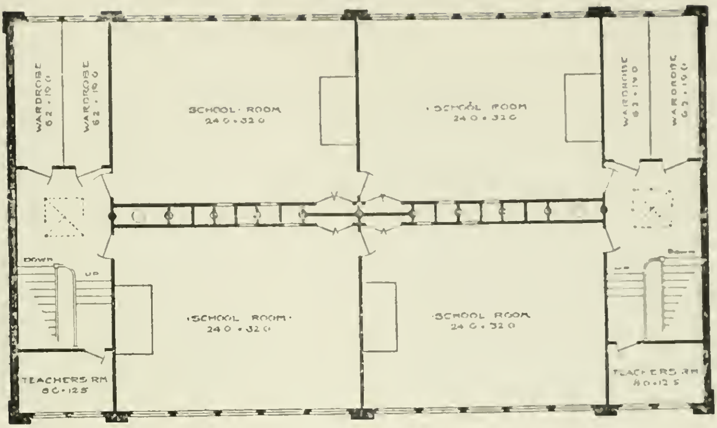
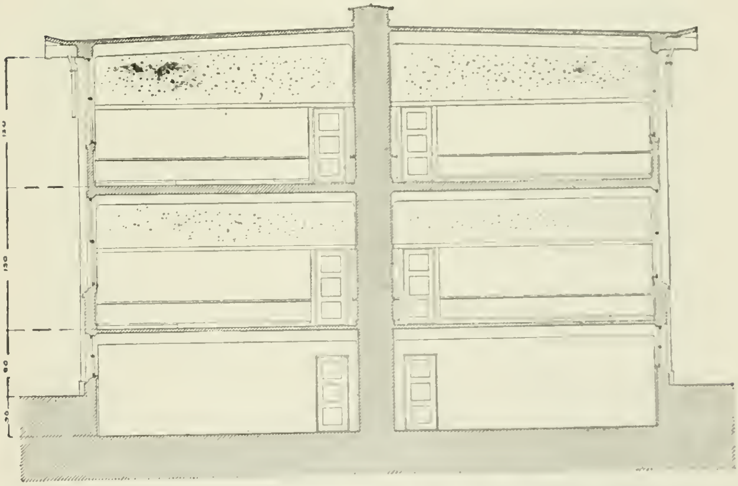
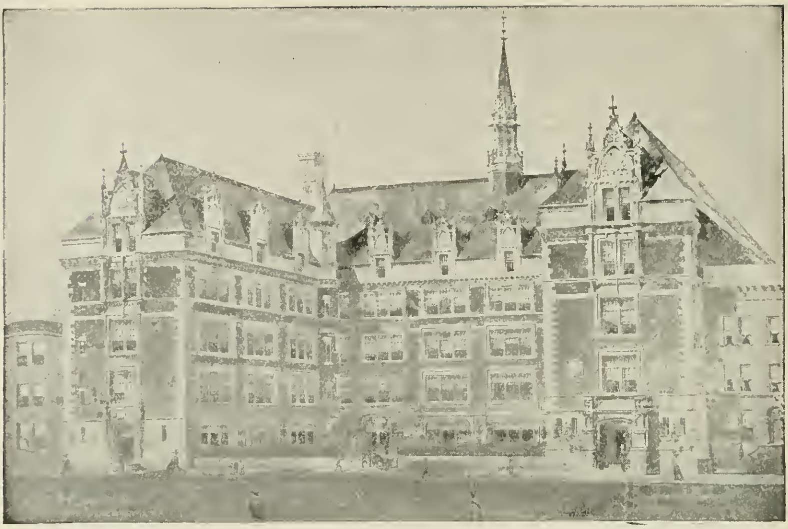


Fig. 2



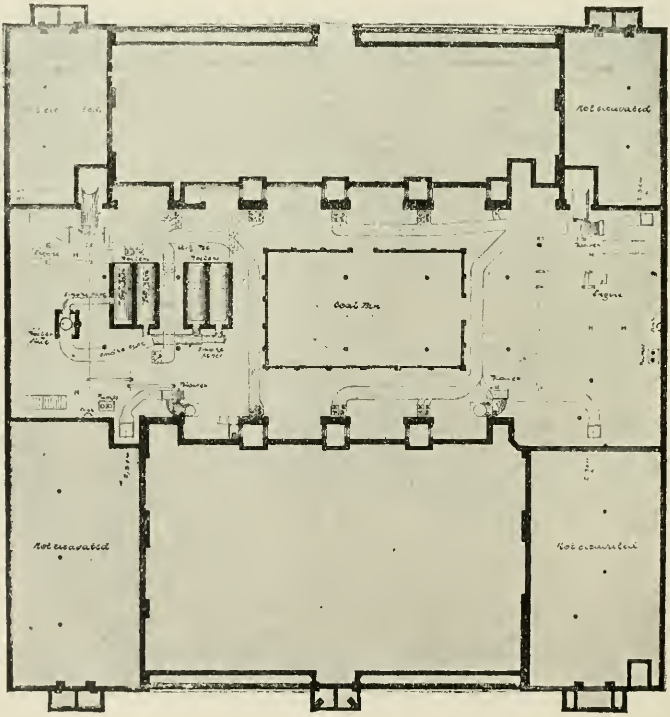
SECOND FLOOR PLAN AND SECTIONAL VIEW OF AN EIGHT ROOM PRIMARY AND GRAMMAR SCHOOL HOUSE

William Atkinson, Architect



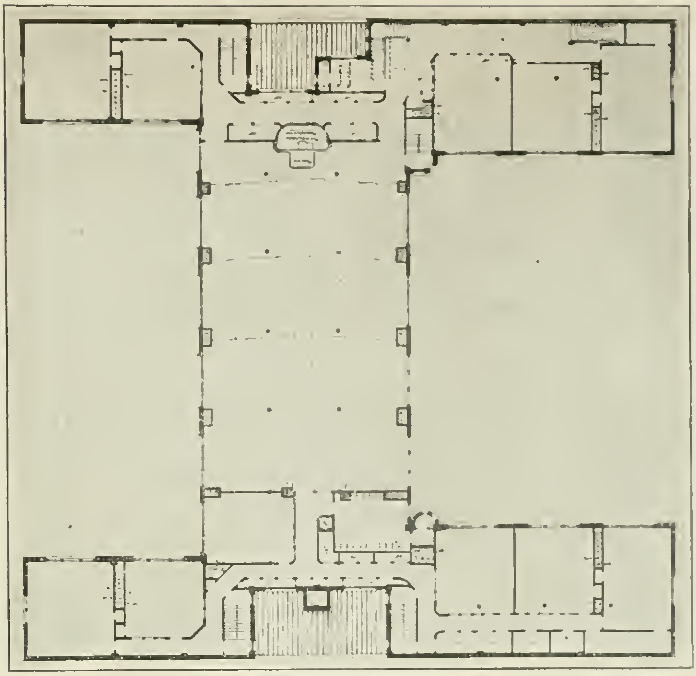
PUBLIC SCHOOL BUILDING NO. 165, NEW YORK CITY

C. B. J. Snyder, Architect, New York

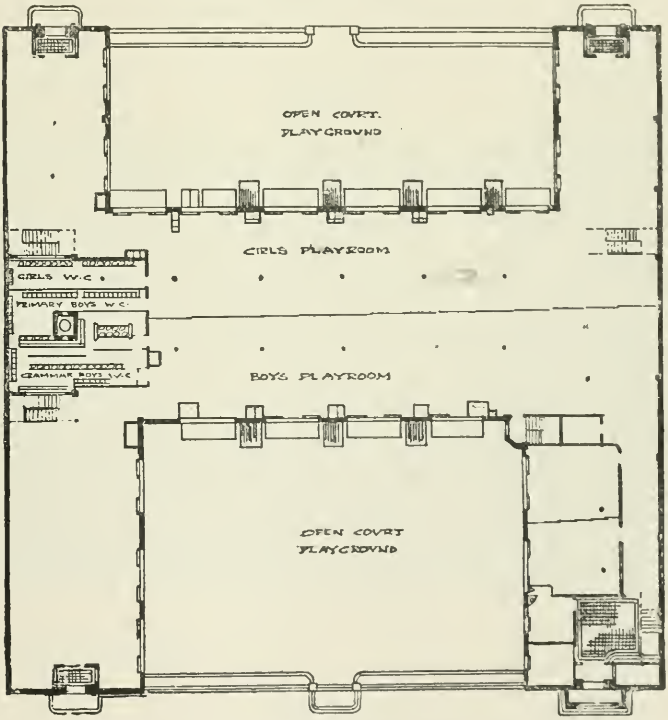


Basement Plan

PLATE XI



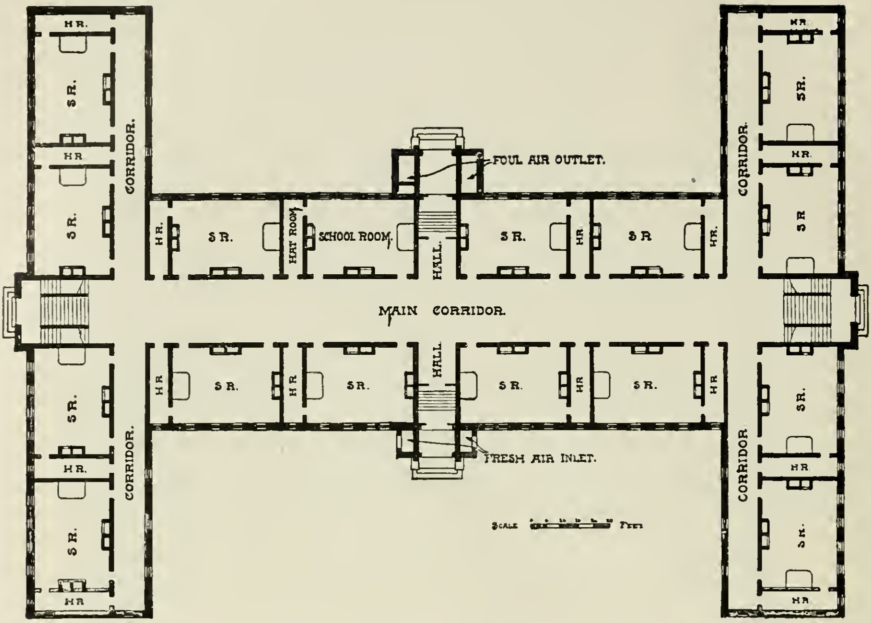
Second Floor Plan



First Floor Plan

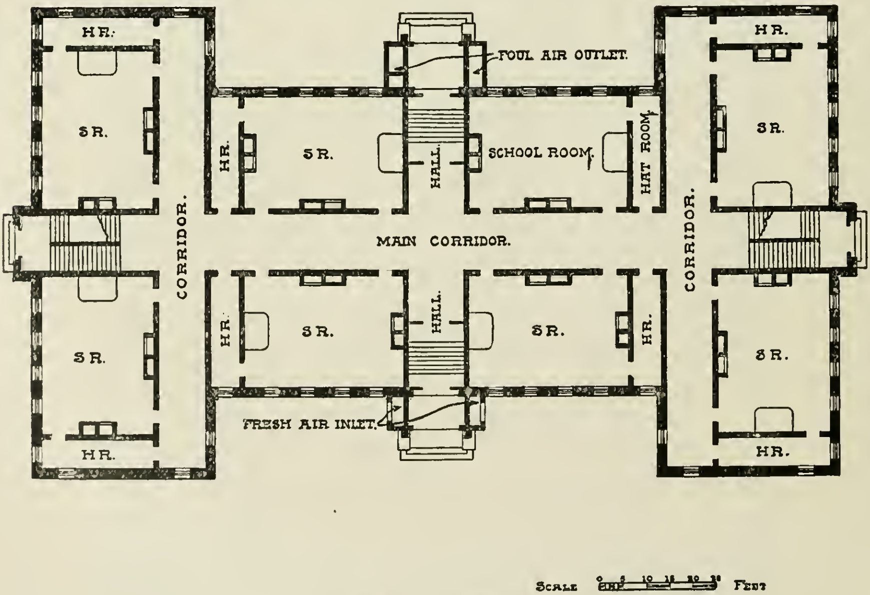
PUBLIC SCHOOL BUILDING NO. 165, NEW YORK CITY

Fig. 1



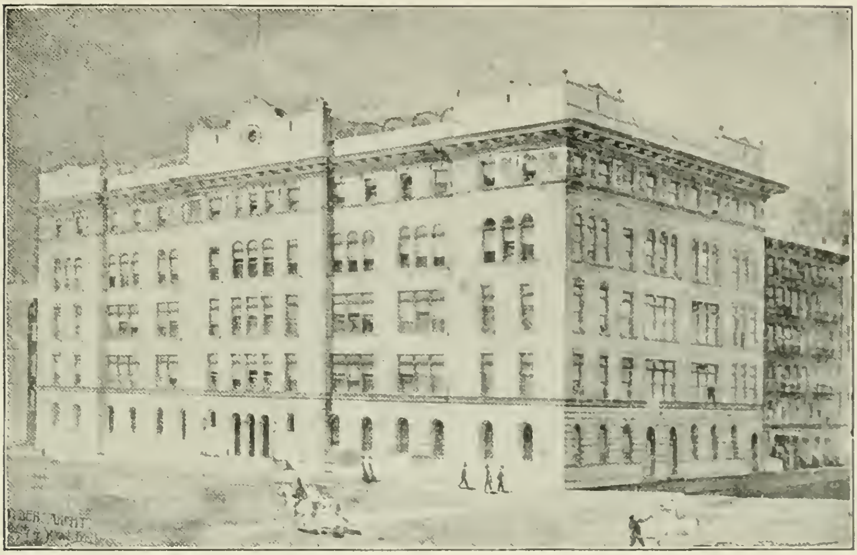
PLAN SUGGESTED FOR A LARGE PRIMARY AND GRAMMAR SCHOOL

Fig. 2



PLAN SUGGESTED FOR A SMALL PRIMARY AND GRAMMAR SCHOOL

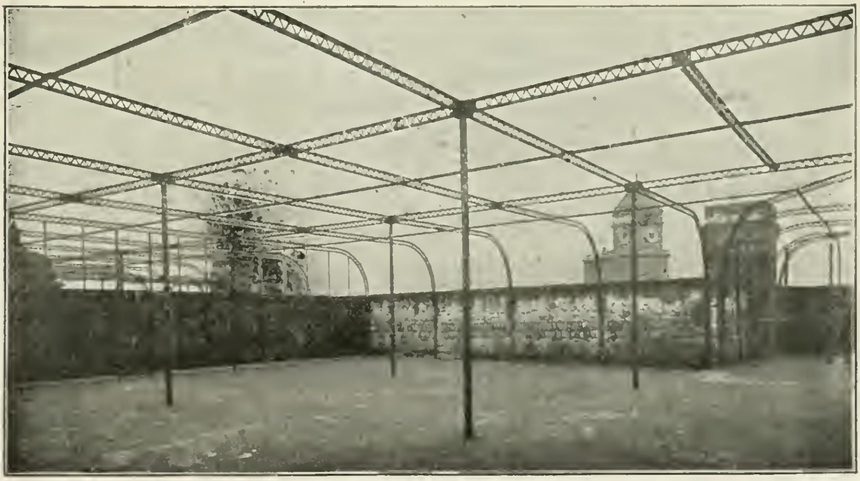
Fig. 1



PUBLIC SCHOOL NO. 20, NEW YORK CITY

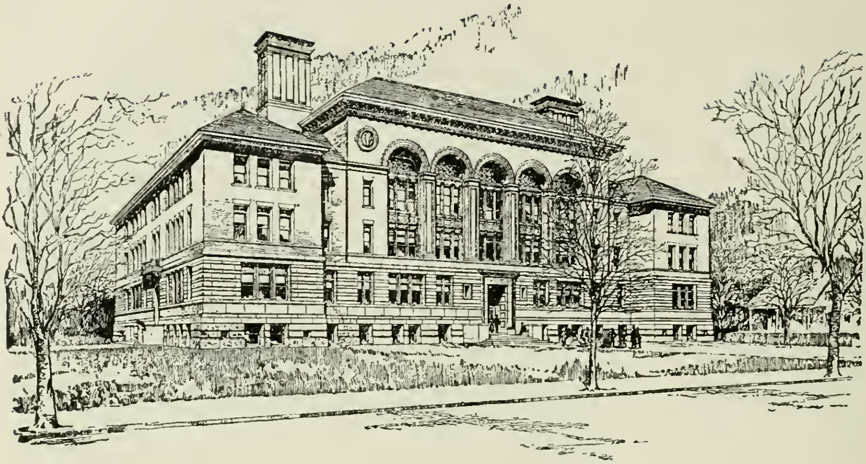
C. B. J. Snyder, Architect

Fig. 2



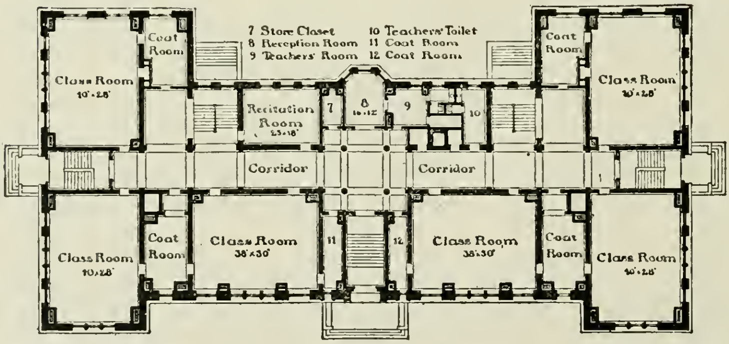
Roof Playground

PLATE XIV

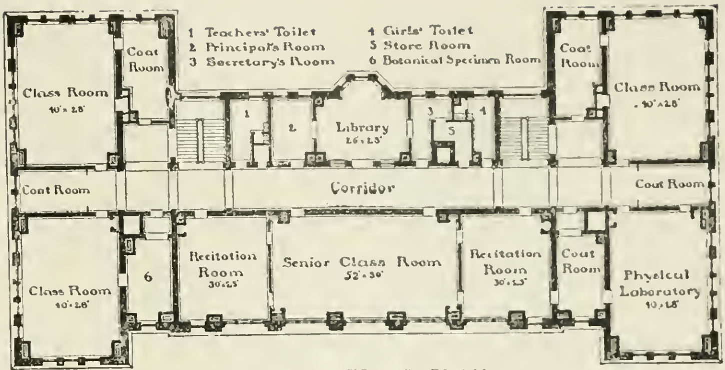


CAMBRIDGE (MASS.) ENGLISH HIGH SCHOOL

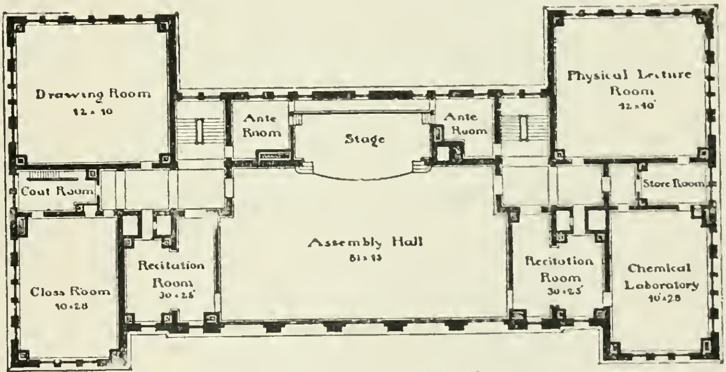
Chamberlin & Austin, Architects



FIRST FLOOR PLAN



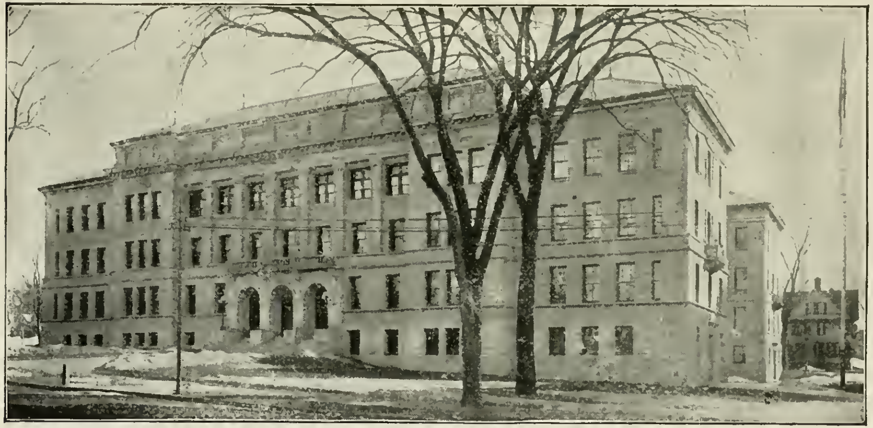
SECOND FLOOR PLAN



THIRD FLOOR PLAN

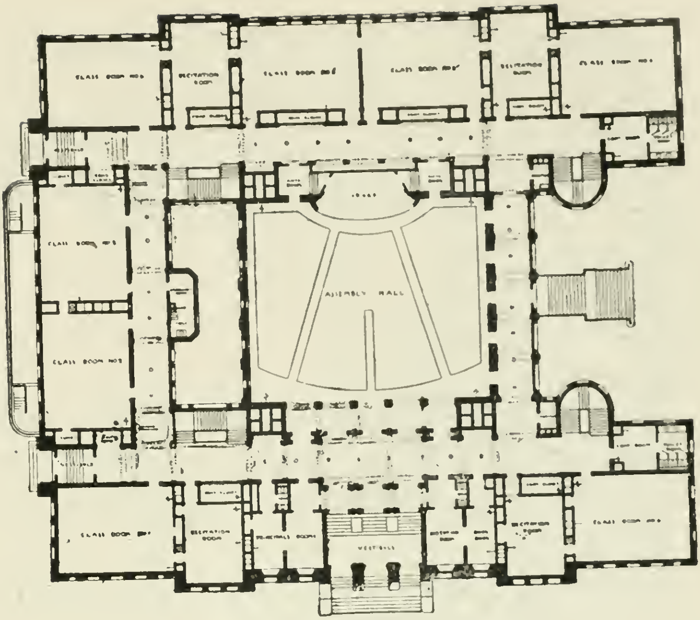
CAMBRIDGE (MASS.) ENGLISH HIGH SCHOOL

Chamberlin & Austin, Architects

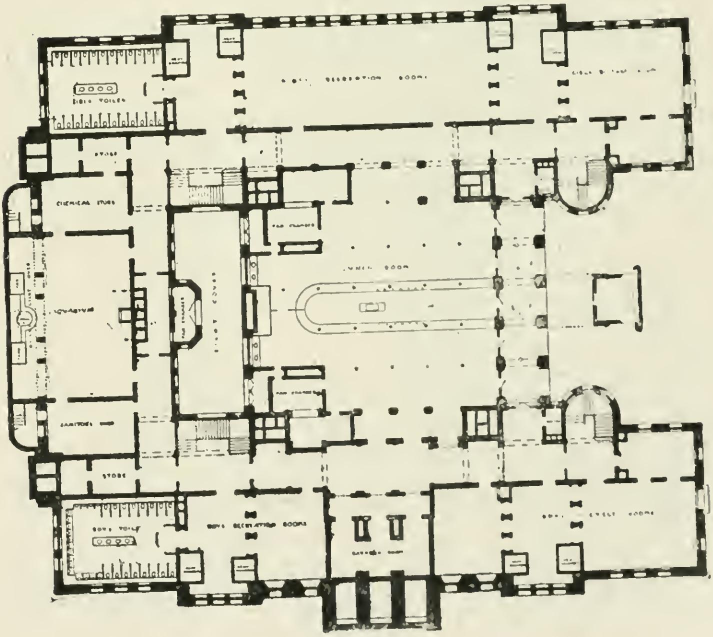


SPRINGFIELD, MASS., HIGH SCHOOL

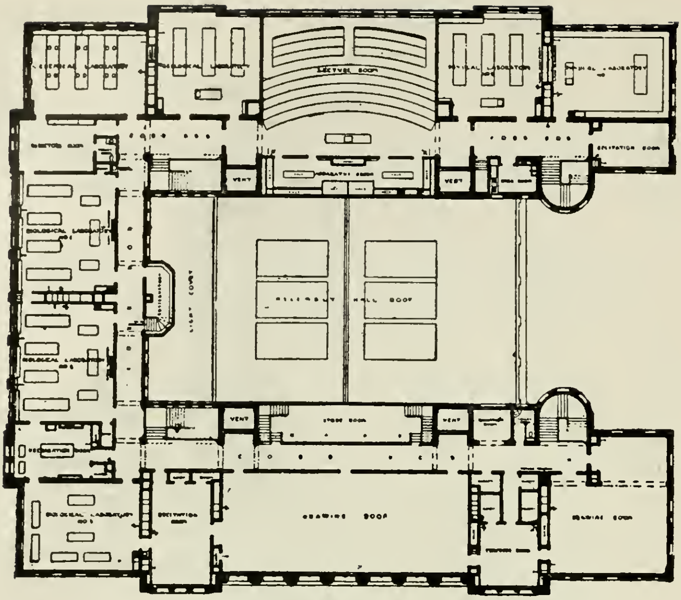
Hartwell, Richardson & Driver, Architects



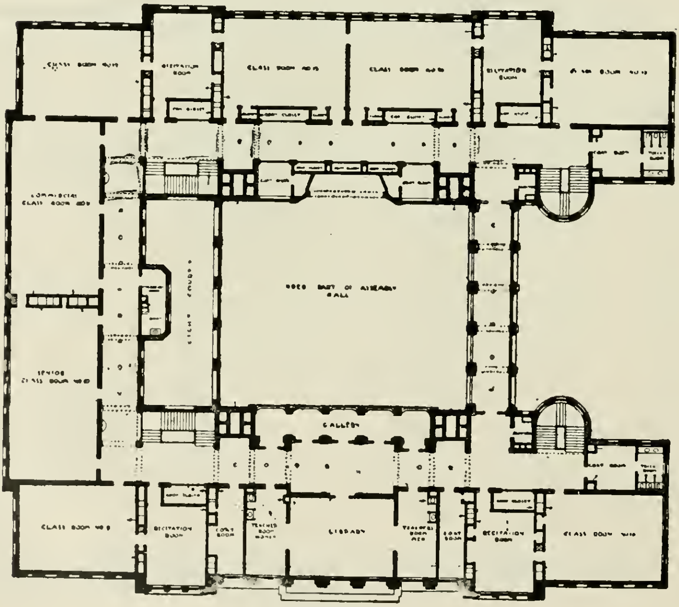
First Floor



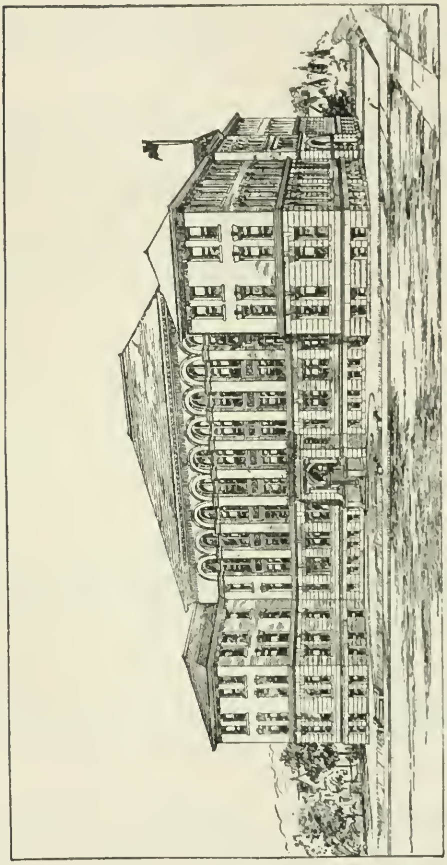
Basement



Third Floor



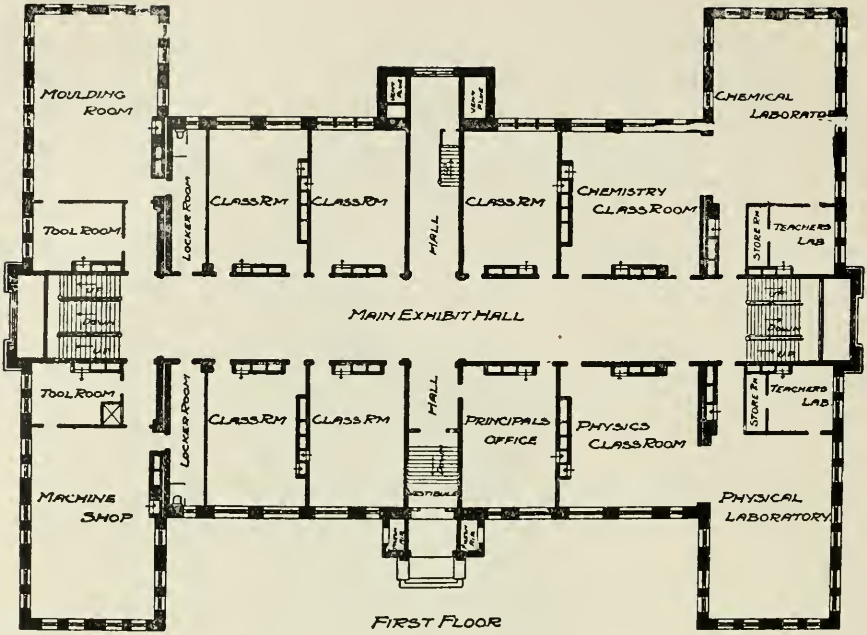
Second Floor



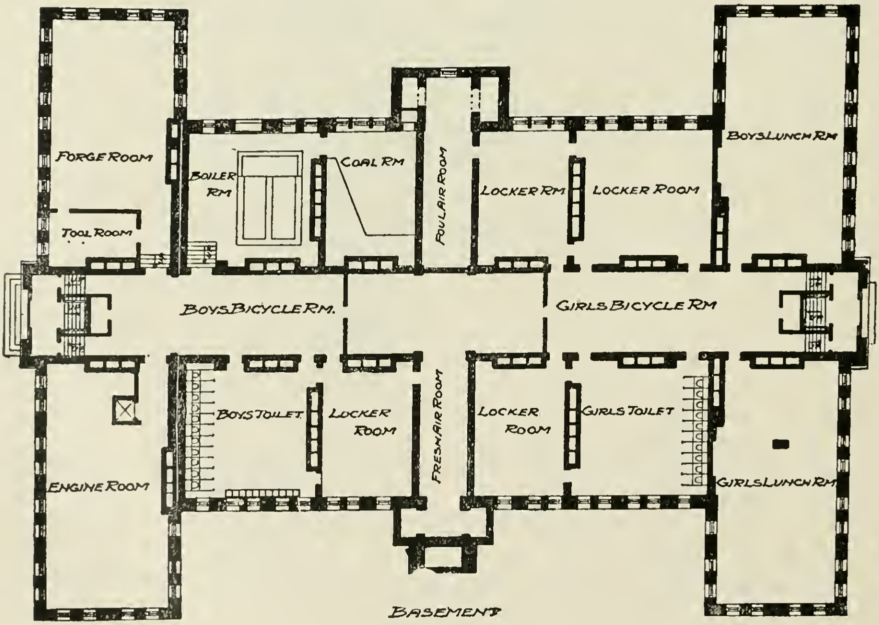
MANUAL TRAINING HIGH SCHOOL, KANSAS CITY, MO.

Hackney & Smith, Architects

PLATE XX



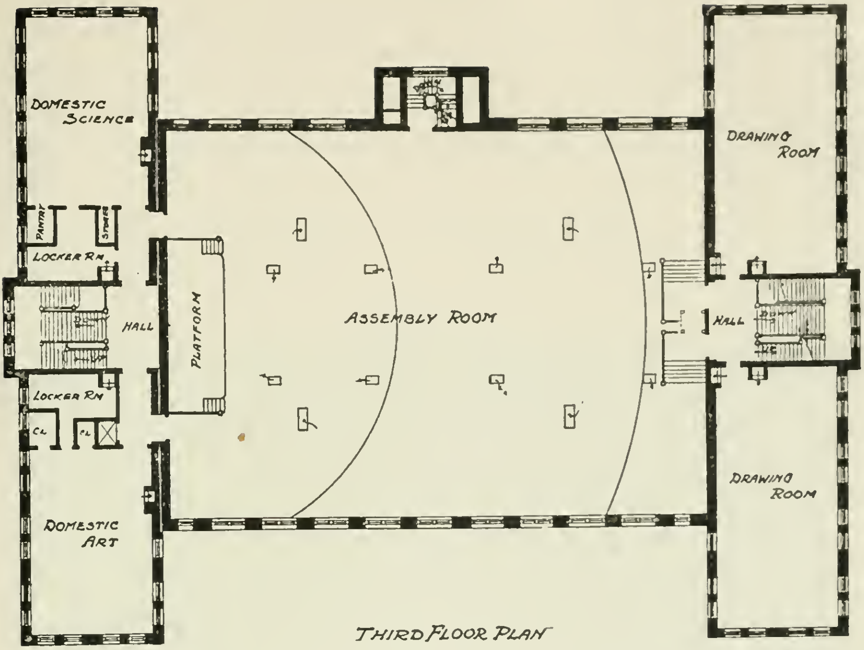
FIRST FLOOR



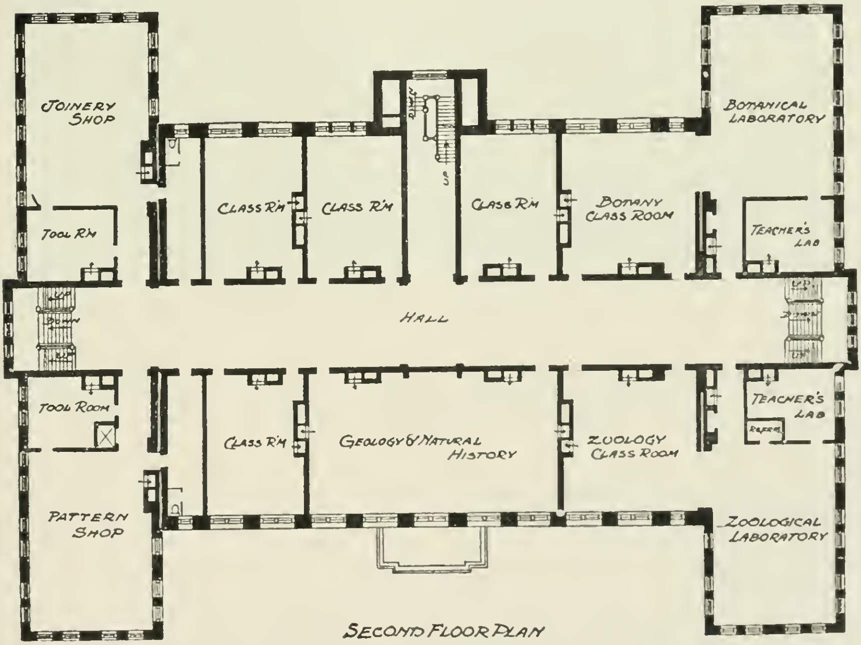
BASEMENT

MANUAL TRAINING HIGH SCHOOL, KANSAS CITY

PLATE XXI



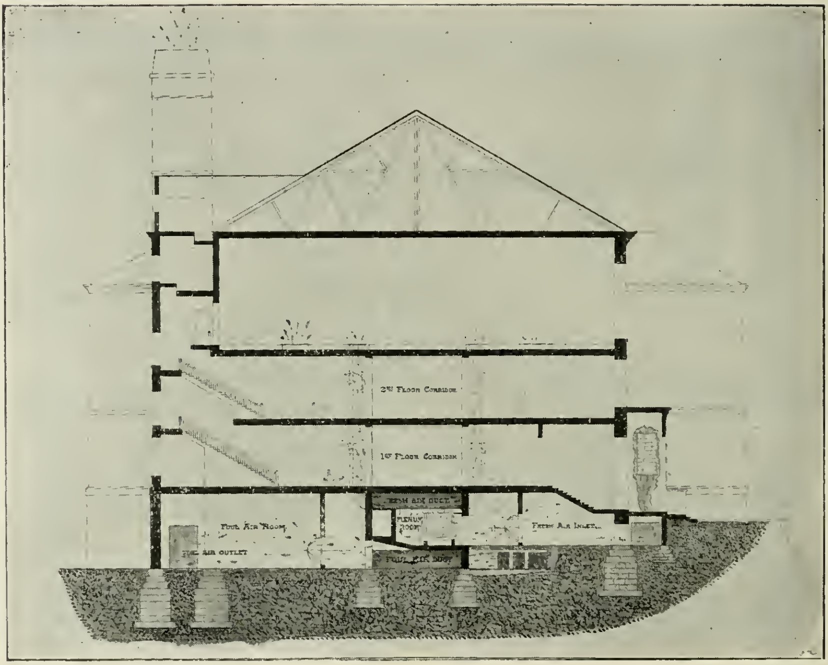
THIRD FLOOR PLAN



SECOND FLOOR PLAN

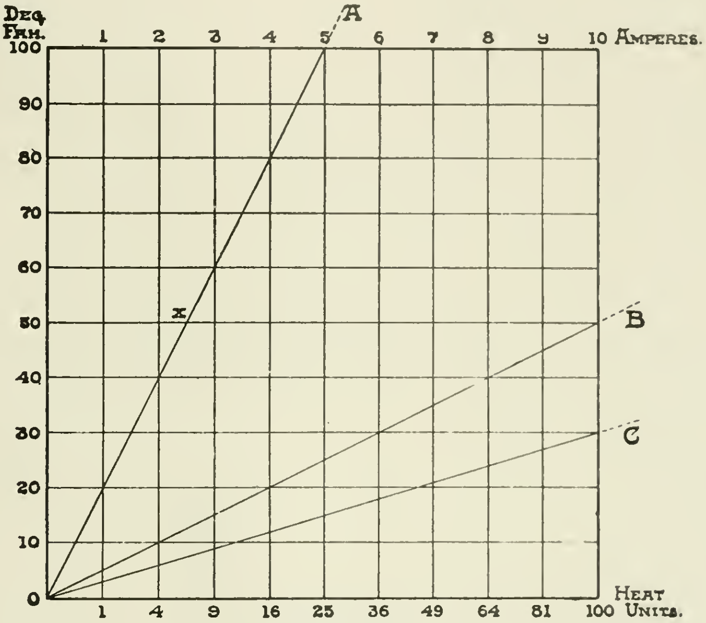
MANUAL TRAINING HIGH SCHOOL, KANSAS CITY

PLATE XXII



CROSS SECTIONAL VIEW

PLATE XXIII

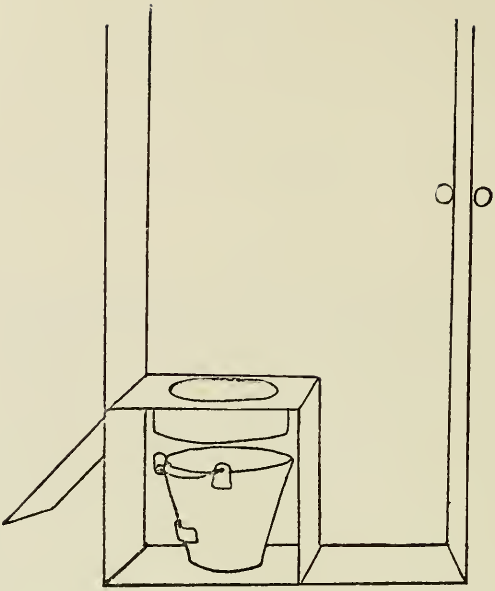


A Heat distributed under floor, ventilation above.

B Heat delivered on side, ventilation below.

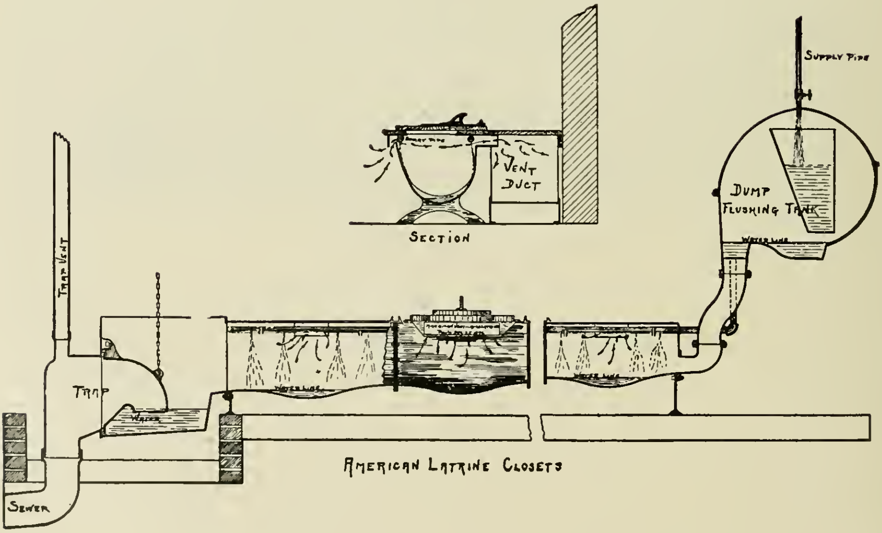
C Heat delivered on side, ventilation above.

Fig. 1



PLAN FOR OUT DOOR CLOSET

Fig. 2



AMERICAN LATRINE CLOSETS

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